

ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD
INFORMATION PAPER

Items of interest from the literature

Bacillus cereus

Chen D, Li Y, Lv J, Liu X, Gao P, Zhen G, Zhang W, Wu D, Jing H, Li Y, Zhao Y, Ma X, Ma H, Zhang L. A foodborne outbreak of gastroenteritis caused by Norovirus and *Bacillus cereus* at a university in the Shunyi District of Beijing, China 2018: a retrospective cohort study. BMC Infect Dis. 2019 Oct 29;19(1):910. doi: 10.1186/s12879-019-4570-6. PubMed PMID: 31664944; PubMed Central PMCID: PMC6819576.

Fiedler G, Schneider C, Igbinsosa EO, Kabisch J, Brinks E, Becker B, Stoll DA, Cho GS, Huch M, Franz CMAP. Antibiotics resistance and toxin profiles of *Bacillus cereus*-group isolates from fresh vegetables from German retail markets. BMC Microbiol. 2019 Nov 9;19(1):250. doi: 10.1186/s12866-019-1632-2. PubMed PMID: 31706266; PubMed Central PMCID: PMC6842220.

Jessberger N, Kranzler M, Da Rioli C, Schwenk V, Buchacher T, Dietrich R, Ehling-Schulz M, Märtlbauer E. Assessing the toxic potential of enteropathogenic *Bacillus cereus*. Food Microbiol. 2019 Dec;84:103276. doi: 10.1016/j.fm.2019.103276. Epub 2019 Jul 22. PubMed PMID: 31421762.

Park HW, Yoon WB. A quantitative microbiological exposure assessment model for *Bacillus cereus* in pasteurized rice cakes using computational fluid dynamics and Monte Carlo simulation. Food Res Int. 2019 Nov;125:108562. doi: 10.1016/j.foodres.2019.108562. Epub 2019 Jul 15. PubMed PMID: 31554100.

Talahmeh N, Abu-Rumeileh S, Al-Razem F. Development of a selective and differential media for the isolation and enumeration of *Bacillus cereus* from food samples. J Appl Microbiol. 2019 Dec 23. doi: 10.1111/jam.14561. [Epub ahead of print] PubMed PMID: 31867800.

Tirloni E, Bernardi C, Ghelardi E, Celandroni F, Andrighetto C, Rota N, Stella S. Biopreservation as a potential hurdle for *Bacillus cereus* growth in fresh cheese. J Dairy Sci. 2020 Jan;103(1):150-160. doi: 10.3168/jds.2019-16739. Epub 2019 Oct 24. PubMed PMID: 31668441.

Webb MD, Barker GC, Goodburn KE, Peck MW. Risk presented to minimally processed chilled foods by psychrotrophic *Bacillus cereus*. Trends Food Sci Technol. 2019 Nov;93:94-105. doi: 10.1016/j.tifs.2019.08.024. Review. PubMed PMID: 31764911; PubMed Central PMCID: PMC6853023.

Campylobacter

Bertram R, Kehrenberg C, Seinige D, Krischek C. Peracetic acid reduces *Campylobacter* spp. numbers and total viable counts on broiler breast muscle and drumstick skins during modified atmosphere package storage. *Poult Sci.* 2019 Oct 1;98(10):5064-5073. doi: 10.3382/ps/pez266. PubMed PMID: 31073589.

Di Giannatale E, Calistri P, Di Donato G, Decastelli L, Goffredo E, Adriano D, Mancini ME, Galleggiante A, Neri D, Antoci S, Marfoggia C, Marotta F, Nuvoloni R, Migliorati G. Thermotolerant *Campylobacter* spp. in chicken and bovine meat in Italy: Prevalence, level of contamination and molecular characterization of isolates. *PLoS One.* 2019 Dec 6;14(12):e0225957. doi: 10.1371/journal.pone.0225957. eCollection 2019. PubMed PMID: 31809529; PubMed Central PMCID: PMC6897410.

Efimochkina NR, Stetsenko VV, Sheveleva SA. Peculiarities of Biofilms Formation by *Campylobacter* Bacteria in Mixed Populations with Other Microbial Contaminants of Food Products. *Bull Exp Biol Med.* 2019 Nov;168(1):62-65. doi: 10.1007/s10517-019-04647-1. Epub 2019 Nov 20. PubMed PMID: 31748868.

García-Sánchez L, Melero B, Jaime I, Rossi M, Ortega I, Rovira J. Biofilm formation, virulence and antimicrobial resistance of different *Campylobacter jejuni* isolates from a poultry slaughterhouse. *Food Microbiol.* 2019 Oct;83:193-199. doi: 10.1016/j.fm.2019.05.016. Epub 2019 May 29. PubMed PMID: 31202413.

Guk JH, Kim J, Song H, Kim J, An JU, Kim J, Ryu S, Jeon B, Cho S. Hyper-Aerotolerant *Campylobacter coli* from Duck Sources and Its Potential Threat to Public Health: Virulence, Antimicrobial Resistance, and Genetic Relatedness. *Microorganisms.* 2019 Nov 19;7(11). pii: E579. doi: 10.3390/microorganisms7110579. PubMed PMID: 31752343; PubMed Central PMCID: PMC6920863.

Inglis GD, Gusse JF, House KE, Shelton TG, Taboada EN. Tetracycline Resistant *Campylobacter jejuni* Subtypes Emanating from Beef Cattle Administered Non-Therapeutic Chlorotetracycline are Longitudinally Transmitted within the Production Continuum but are Not Detected in Ground Beef. *Microorganisms.* 2019 Dec 21;8(1). pii: E23. doi: 10.3390/microorganisms8010023. PubMed PMID: 31877744.

Inglis GD, Gusse JF, House KE, Shelton TG, Taboada EN. Clinically-Relevant *Campylobacter jejuni* Subtypes are Readily Found and Transmitted within the Cattle Production Continuum but Present a Limited Foodborne Risk. *Appl Environ Microbiol.* 2019 Dec 20. pii: AEM.02101-19. doi: 10.1128/AEM.02101-19. [Epub ahead of print] PubMed PMID: 31862718.

Kim J, Park H, Kim J, Kim JH, Jung JI, Cho S, Ryu S, Jeon B. Comparative Analysis of Aerotolerance, Antibiotic Resistance, and Virulence Gene Prevalence in *Campylobacter jejuni* Isolates from Retail Raw Chicken and Duck Meat in South Korea. *Microorganisms.* 2019 Oct 10;7(10). pii: E433. doi: 10.3390/microorganisms7100433. PubMed PMID: 31658662; PubMed Central PMCID: PMC6843641.

Clostridium

Candel-Pérez C, Zapata-Galián E, López-Nicolás R, Ros-Berruezo G, Martínez-Graciá C. Presence of toxigenic *Clostridioides (Clostridium) difficile* in edible bivalve mollusks in Spain. *Food Sci Technol Int*. 2019 Dec 26:1082013219894092. doi: 10.1177/1082013219894092. [Epub ahead of print] PubMed PMID: 31876184.

Kiu R, Caim S, Painset A, Pickard D, Swift C, Dougan G, Mather AE, Amar C, Hall LJ. Phylogenomic analysis of gastroenteritis-associated *Clostridium perfringens* in England and Wales over a 7-year period indicates distribution of clonal toxigenic strains in multiple outbreaks and extensive involvement of enterotoxin-encoding (CPE) plasmids. *Microb Genom*. 2019 Oct;5(10). doi: 10.1099/mgen.0.000297. Epub 2019 Sep 20. PubMed PMID: 31553300; PubMed Central PMCID: PMC6861862.

Mellou K, Kyritsi M, Chrysostomou A, Sideroglou T, Georgakopoulou T, Hadjichristodoulou C. *Clostridium perfringens* Foodborne Outbreak during an Athletic Event in Northern Greece, June 2019. *Int J Environ Res Public Health*. 2019 Oct 17;16(20). pii: E3967. doi: 10.3390/ijerph16203967. PubMed PMID:31627449; PubMed Central PMCID: PMC6843328.

Wambui J, Püntener S, Corti S, Cernela N, Stephan R. Detection of Psychrophilic *Clostridium* spp. Causing "Blown Pack" Spoilage in Meat Juice Samples from Chilled Vacuum-Packed Beef and Lamb Meat Imported from Different Countries to Switzerland. *J Food Prot*. 2020 Jan;83(1):56-59. doi: 10.4315/0362-028X.JFP-19-321. PubMed PMID: 31825674.

Zamani AH, Razmyar J, Berger FK, Kalidari GA, Jamshidi A. Isolation and toxin gene detection of *Clostridium (Clostridioides) difficile* from traditional and commercial quail farms and packed quail meat for market supply – Short communication. *Acta Vet Hung*. 2019 Dec;67(4):499-504. doi: 10.1556/004.2019.049. PubMed PMID: 31842596.

Zhang P, Ward P, McMullen LM, Yang X. A case of 'blown pack' spoilage of vacuum-packaged pork likely associated with *Clostridium estertheticum* in Canada. *Lett Appl Microbiol*. 2020 Jan;70(1):13-20. doi: 10.1111/lam.13236. Epub 2019 Nov 8. PubMed PMID: 31627244.

Cryptosporidium

Firoozi Z, Sazmand A, Zahedi A, Astani A, Fattahi-Bafghi A, Kiani-Salmi N, Ebrahimi B, Dehghani-Tafti A, Ryan U, Akrami-Mohajeri F. Prevalence and genotyping identification of *Cryptosporidium* in adult ruminants in central Iran. *Parasit Vectors*. 2019 Oct 30;12(1):510. doi: 10.1186/s13071-019-3759-2. PubMed PMID: 31666095; PubMed Central PMCID: PMC6822396.

Taghipour A, Javanmard E, Haghighi A, Mirjalali H, Zali MR. The occurrence of *Cryptosporidium* spp., and eggs of soil-transmitted helminths in market vegetables in the north of Iran. *Gastroenterol Hepatol Bed Bench*. 2019 Fall;12(4):364-369. PubMed PMID: 31749926; PubMed Central PMCID: PMC6820843.

Giardia

Kiani-Salmi N, Fattahi-Bafghi A, Astani A, Sazmand A, Zahedi A, Firoozi Z, Ebrahimi B, Dehghani-Tafti A, Ryan U, Akrami-Mohajeri F. Molecular typing of *Giardia duodenalis* in cattle, sheep and goats in an arid area of central Iran. *Infect Genet Evol.* 2019 Nov;75:104021. doi: 10.1016/j.meegid.2019.104021. Epub 2019 Sep 5. PubMed PMID: 31494270.

Hepatitis A

Hernández E, de Castro V, Avellón A, González I, Muniozguren N, Vázquez S, Muñoz-Chimeno M. Hepatitis A outbreak associated with a food handler in Bizkaia, 2017. *Enferm Infecc Microbiol Clin.* 2019 Nov;37(9):569-573. doi: 10.1016/j.eimc.2019.01.011. Epub 2019 Mar 12. English, Spanish. PubMed PMID: 30876672.

Hu X, Collier MG, Xu F. Hepatitis A Outbreaks in Developed Countries: Detection, Control, and Prevention. *Foodborne Pathog Dis.* 2019 Dec 12. doi: 10.1089/fpd.2019.2648. [Epub ahead of print] PubMed PMID: 31829731.

Wu R, Xing X, Corredig M, Meng B, Griffiths MW. Concentration of hepatitis A virus in milk using protamine-coated iron oxide (Fe(3)O(4)) magnetic nanoparticles. *Food Microbiol.* 2019 Dec;84:103236. doi: 10.1016/j.fm.2019.05.020. Epub 2019 May 30. PubMed PMID: 31421754.

Hepatitis E

Teixeira-Costa C, Andraud M, Rose N, Salines M. Controlling hepatitis E virus in the pig production sector: Assessment of the technical and behavioural feasibility of on-farm risk mitigation strategies. *Prev Vet Med.* 2019 Dec 6;175:104866. doi: 10.1016/j.prevetmed.2019.104866. [Epub ahead of print] PubMed PMID: 31838401.

Trojnar E, Kästner B, Johne R. No Evidence of Hepatitis E Virus Infection in Farmed Deer in Germany. *Food Environ Virol.* 2019 Oct 17. doi: 10.1007/s12560-019-09407-y. [Epub ahead of print] PubMed PMID: 31625032.

Listeria monocytogenes

Alonso-Calleja C, Gómez-Fernández S, Carballo J, Capita R. Prevalence, Molecular Typing, and Determination of the Biofilm-Forming Ability of *Listeria monocytogenes* Serotypes from Poultry Meat and Poultry Preparations in Spain. *Microorganisms.* 2019 Nov 5;7(11). pii: E529. doi: 10.3390/microorganisms7110529. PubMed PMID: 31694193; PubMed Central PMCID: PMC6920909.

Capita R, Felices-Mercado A, García-Fernández C, Alonso-Calleja C. Characterization of *Listeria monocytogenes* Originating from the Spanish Meat-Processing Chain. *Foods.* 2019 Nov 3;8(11). pii: E542. doi: 10.3390/foods8110542. PubMed PMID: 31684121; PubMed Central PMCID: PMC6915328.

Dygico LK, Gahan CGM, Grogan H, Burgess CM. The ability of *Listeria monocytogenes* to form biofilm on surfaces relevant to the mushroom production environment. *Int J Food Microbiol.* 2019 Oct 22;317:108385. doi: 10.1016/j.ijfoodmicro.2019.108385. [Epub ahead of print] PubMed PMID: 31783343.

Lawton MR, Jencarelli KG, Kozak SM, Alcaine SD. Short communication: Evaluation of commercial meat cultures to inhibit *Listeria monocytogenes* in a fresh cheese laboratory model. *J Dairy Sci.* 2019 Dec 11. pii: S0022-0302(19)31083-5. doi: 10.3168/jds.2019-17203. [Epub ahead of print] PubMed PMID: 31837788.

Lee BH, Cole S, Badel-Berchoux S, Guillier L, Felix B, Krezdorn N, Hébraud M, Bernardi T, Sultan I, Piveteau P. Biofilm Formation of *Listeria monocytogenes* Strains Under Food Processing Environments and Pan-Genome-Wide Association Study. *Front Microbiol.* 2019 Nov 21;10:2698. doi: 10.3389/fmicb.2019.02698. eCollection 2019. PubMed PMID: 31824466; PubMed Central PMCID: PMC6882377.

Liu Y, Wang X, Liu B, Dong Q. One-Step Analysis for *Listeria monocytogenes* Growth in Ready-to-Eat Braised Beef at Dynamic and Static Conditions. *J Food Prot.* 2019 Nov;82(11):1820-1827. doi: 10.4315/0362-028X.JFP-18-574. PubMed PMID: 31596616.

Magdovitz BF, Gummalla S, Thippareddi H, Harrison MA. Evaluating Environmental Monitoring Protocols for *Listeria spp.* and *Listeria monocytogenes* in Frozen Food Manufacturing Facilities. *J Food Prot.* 2020 Jan;83(1):172-187. doi: 10.4315/0362-028X.JFP-19-190. PubMed PMID: 31860396.

Manso B, Melero B, Stessl B, Fernández-Natal I, Jaime I, Hernández M, Wagner M, Rovira J, Rodríguez-Lázaro D. Characterization of Virulence and Persistence Abilities of *Listeria monocytogenes* Strains Isolated from Food Processing Premises. *J Food Prot.* 2019 Nov;82(11):1922-1930. doi: 10.4315/0362-028X.JFP-19-109. PubMed PMID: 31633423.

Marik CM, Zuchel J, Schaffner DW, Strawn LK. Growth and Survival of *Listeria monocytogenes* on Intact Fruit and Vegetable Surfaces during Postharvest Handling: A Systematic Literature Review. *J Food Prot.* 2020 Jan;83(1):108-128. doi: 10.4315/0362-028X.JFP-19-283. PubMed PMID: 31855613.

Mohan V, Wibisono R, de Hoop L, Summers G, Fletcher GC. Identifying Suitable *Listeria innocua* Strains as Surrogates for *Listeria monocytogenes* for Horticultural Products. *Front Microbiol.* 2019 Oct 9;10:2281. doi:10.3389/fmicb.2019.02281. eCollection 2019. PubMed PMID: 31649633; PubMed Central PMCID: PMC6794387.

Montiel R, Peiroten Á, Ortiz S, Bravo D, Gaya P, Martínez-Suárez JV, Tapiador J, Nuñez M, Medina M. Inactivation of *Listeria monocytogenes* during dry-cured ham processing. *Int J Food Microbiol.* 2019 Dec 2;318:108469. doi: 10.1016/j.ijfoodmicro.2019.108469. [Epub ahead of print] PubMed PMID: 31837591.

Nichols M, Conrad A, Whitlock L, Stroika S, Strain E, Weltman A, Johnson L, DeMent J, Reporter R, Williams I. Short communication: Multistate outbreak of *Listeria monocytogenes* infections retrospectively linked to unpasteurized milk using whole-genome sequencing. *J Dairy Sci.* 2020 Jan;103(1):176-178. doi: 10.3168/jds.2019-16703. Epub 2019 Nov 14. PubMed PMID: 31733864.

Pavli F, Argyri AA, Skandamis P, Nychas GJ, Tassou C, Chorianopoulos N. Antimicrobial Activity of Oregano Essential Oil Incorporated in Sodium Alginate Edible Films: Control of *Listeria monocytogenes* and Spoilage in Ham Slices Treated with High Pressure Processing. *Materials (Basel).* 2019 Nov 12;12(22). pii: E3726. doi: 10.3390/ma12223726. PubMed PMID: 31718078.

Pérez-Baltar A, Serrano A, Montiel R, Medina M. *Listeria monocytogenes* inactivation in deboned dry-cured hams by high pressure processing. *Meat Sci.* 2020 Feb;160:107960. doi: 10.1016/j.meatsci.2019.107960. Epub 2019 Oct 17. PubMed PMID: 31669860.

Rodríguez-Campos D, Rodríguez-Melcón C, Alonso-Calleja C, Capita R. Persistent *Listeria monocytogenes* Isolates from a Poultry-Processing Facility Form more Biofilm but Do Not Have a Greater Resistance to Disinfectants Than Sporadic Strains. *Pathogens.* 2019 Nov 20;8(4). pii: E250. doi: 10.3390/pathogens8040250. PubMed PMID: 31756896.

Rodríguez-López P, Rodríguez-Herrera JJ, Cabo ML. Tracking bacteriome variation over time in *Listeria monocytogenes*-positive foci in food industry. *Int J Food Microbiol.* 2019 Nov 6;315:108439. doi: 10.1016/j.ijfoodmicro.2019.108439. [Epub ahead of print] PubMed PMID: 31710972.

Salazar JK, Stewart D, Shazer A, Tortorello ML. Short communication: Long-term - 20°C survival of *Listeria monocytogenes* in artificially and process-contaminated ice cream involved in an outbreak of listeriosis. *J Dairy Sci.* 2020 Jan;103(1):172-175. doi: 10.3168/jds.2019-16774. Epub 2019 Nov 6. PubMed PMID: 31704018.

Salazar JK, Natarajan V, Stewart D, Suehr Q, Mhetras T, Gonsalves LJ, Tortorello ML. Survival kinetics of *Listeria monocytogenes* on chickpeas, sesame seeds, pine nuts, and black pepper as affected by relative humidity storage conditions. *PLoS One.* 2019 Dec 11;14(12):e0226362. doi: 10.1371/journal.pone.0226362. eCollection 2019. PubMed PMID: 31826019; PubMed Central PMCID: PMC6905538.

Thomas M, Tiwari R, Mishra A. Predictive Model of *Listeria monocytogenes* Growth in Queso Fresco. *J Food Prot.* 2019 Dec;82(12):2071-2079. doi: 10.4315/0362-028X.JFP-19-185. PubMed PMID: 31714806.

Tucci P, Centorotola G, Salini R, Iannetti L, Sperandii AF, D'Alterio N, Migliorati G, Pomilio F. Challenge test studies on *Listeria monocytogenes* in ready-to-eat iceberg lettuce. *Food Sci Nutr.* 2019 Sep 30;7(12):3845-3852. doi: 10.1002/fsn3.1167. eCollection 2019 Dec. PubMed PMID: 31890162; PubMed Central PMCID: PMC6924298.

Walecka-Zacharska E, Korkus J, Skowron K, Wietlicka-Piszcz M, Kosek-Paszkowska K, Bania J. Effect of Temperatures Used in Food Storage on Duration of Heat Stress Induced Invasiveness of *L. monocytogenes*. *Microorganisms*. 2019 Oct 17;7(10). pii: E467. doi: 10.3390/microorganisms7100467. PubMed PMID: 31627472; PubMed Central PMCID: PMC6843778.

Won S, Lee J, Kim J, Choi H, Kim J. Comparative whole cell proteomics of *Listeria monocytogenes* at different growth temperatures. *J Microbiol Biotechnol*. 2019 Dec 2. doi: 10.4014/jmb.1911.11027. [Epub ahead of print] PubMed PMID: 31838794.

Zolfaghari M, Rezaei M, Mohabbati Mobarez A, Forozandeh Moghaddam M, Hosseini H, Khezri M. Virulence genes expression in viable but non-culturable state of *Listeria monocytogenes* in fish meat. *Food Sci Technol Int*. 2019 Oct 4:1082013219877267. doi: 10.1177/1082013219877267. [Epub ahead of print] PubMed PMID: 31583896.

Mycobacterium

Dorn-In S, Gareis M, Schwaiger K. Differentiation of live and dead *Mycobacterium tuberculosis* complex in meat samples using PMA qPCR. *Food Microbiol*. 2019 Dec;84:103275. doi: 10.1016/j.fm.2019.103275. Epub 2019 Jul 18. PubMed PMID: 31421753.

Norovirus

Anfruns-Estrada E, Bottaro M, Pintó RM, Guix S, Bosch A. Effectiveness of Consumers Washing with Sanitizers to Reduce Human Norovirus on Mixed Salad. *Foods*. 2019 Dec 3;8(12). pii: E637. doi: 10.3390/foods8120637. PubMed PMID: 31817024.

Becker B, Dabisch-Ruthe M, Pfannebecker J. Inactivation of Murine Norovirus on Fruit and Vegetable Surfaces by Vapor Phase Hydrogen Peroxide. *J Food Prot*. 2020 Jan;83(1):45-51. doi: 10.4315/0362-028X.JFP-19-238. PubMed PMID: 31821018.

Chen D, Li Y, Lv J, Liu X, Gao P, Zhen G, Zhang W, Wu D, Jing H, Li Y, Zhao Y, Ma X, Ma H, Zhang L. A foodborne outbreak of gastroenteritis caused by Norovirus and *Bacillus cereus* at a university in the Shunyi District of Beijing, China 2018: a retrospective cohort study. *BMC Infect Dis*. 2019 Oct 29;19(1):910. doi: 10.1186/s12879-019-4570-6. PubMed PMID: 31664944; PubMed Central PMCID: PMC6819576.

Sharma S, Hagbom M, Carlsson B, Nederby Öhd J, Insulander M, Eriksson R, Simonsson M, Widerström M, Nordgren J. Secretor Status is Associated with Susceptibility to Disease in a Large GII.6 Norovirus Foodborne Outbreak. *Food Environ Virol*. 2019 Oct 29. doi: 10.1007/s12560-019-09410-3. [Epub ahead of print] PubMed PMID: 31664650.

Takahashi M, Okakura Y, Takahashi H, Yamane H, Akashige S, Kuda T, Kimura B. Evaluation of Inactivation of Murine Norovirus in Inoculated Shell Oysters by High

Hydrostatic Pressure Treatment. *J Food Prot.* 2019 Dec;82(12):2169-2173. doi: 10.4315/0362-028X.JFP-19-186. PubMed PMID: 31742443.

Salmonella

Antonelli P, Belluco S, Mancin M, Losasso C, Ricci A. Genes conferring resistance to critically important antimicrobials in *Salmonella enterica* isolated from animals and food: A systematic review of the literature, 2013-2017. *Res Vet Sci.* 2019 Oct;126:59-67. doi: 10.1016/j.rvsc.2019.08.022. Epub 2019 Aug 13. Review. PubMed PMID: 31442714.

Barrere V, Tompkins E, Armstrong M, Bird P, Bastin B, Goodridge L. Optimization of *Salmonella* detection in garlic, onion, cinnamon, red chili pepper powders and green tea. *Int J Food Microbiol.* 2019 Nov 11;316:108440. doi:10.1016/j.ijfoodmicro.2019.108440. [Epub ahead of print] PubMed PMID: 31733520.

Callahan MT, Micallef SA. Waxing and cultivar affect *Salmonella enterica* persistence on cucumber (*Cucumis sativus* L.) fruit. *Int J Food Microbiol.* 2019 Nov 16;310:108359. doi: 10.1016/j.ijfoodmicro.2019.108359. Epub 2019 Sep 11. PubMed PMID: 31655448.

Carson C, Li XZ, Agunos A, Loest D, Chapman B, Finley R, Mehrotra M, Sherk LM, Gaumond R, Irwin R. Ceftiofur-resistant *Salmonella enterica* serovar Heidelberg of poultry origin - a risk profile using the Codex framework. *Epidemiol Infect.* 2019 Nov 4;147:e296. doi:10.1017/S0950268819001778. PubMed PMID: 31679543; PubMed Central PMCID: PMC6836576.

Chuang S, Sheen S, Sommers CH, Zhou S, Sheen LY. Survival Evaluation of *Salmonella* and *Listeria monocytogenes* on Selective and Nonselective Media in Ground Chicken Meat Subjected to High Hydrostatic Pressure and Carvacrol. *J Food Prot.* 2020 Jan;83(1):37-44. doi: 10.4315/0362-028X.JFP-19-075. PubMed PMID: 31809196.

Cohen E, Davidovich M, Rokney A, Valinsky L, Rahav G, Gal-Mor O. Emergence of new variants of antibiotic resistance genomic islands among multidrug-resistant *Salmonella enterica* in poultry. *Environ Microbiol.* 2020 Jan;22(1):413-432. doi:10.1111/1462-2920.14858. Epub 2019 Nov 25. PubMed PMID: 31715658.

Collineau L, Phillips C, Chapman B, Agunos A, Carson C, Fazil A, Reid-Smith RJ, Smith BA. A within-flock model of *Salmonella* Heidelberg transmission in broiler chickens. *Prev Vet Med.* 2019 Nov 4;174:104823. doi: 10.1016/j.prevetmed.2019.104823. [Epub ahead of print] PubMed PMID: 31734519.

Colombe S, Jernberg C, Löf E, Angervall AL, Mellström-Dahlgren H, Dotevall L, Bengnér M, Hall I, Sundqvist L, Kühlmann-Berenzon S, Galanis I, Lindblad M, Hansen A, Rehn M. Outbreak of unusual H(2)S-negative monophasic *Salmonella* Typhimurium strain likely associated with small tomatoes, Sweden, August to October 2019. *Euro Surveill.* 2019 Nov;24(47). doi: 10.2807/1560-7917.ES.2019.24.47.1900643. PubMed PMID: 31771698.

Cota JB, Silva VFD, Chambel L, Veloso MG, Vieira-Pinto M, Oliveira M. Pheno and genotyping of *Salmonella* from slaughtered pigs in a Portuguese abattoir reveal differential persistence ability. *Vet Microbiol.* 2019 Dec;239:108457. doi:10.1016/j.vetmic.2019.108457. Epub 2019 Oct 15. PubMed PMID: 31767083.

Cuggino SG, Bascón-Villegas I, Rincón F, Pérez MA, Posada-Izquierdo G, Marugán J, Pablos Carro C, Pérez-Rodríguez F. Modelling the combined effect of chlorine, benzyl isothiocyanate, exposure time and cut size on the reduction of *Salmonella* in fresh-cut lettuce during washing process. *Food Microbiol.* 2020 Apr;86:103346. doi:10.1016/j.fm.2019.103346. Epub 2019 Oct 7. PubMed PMID: 31703876.

de Oliveira Elias S, Noronha TB, Tondo EC. *Salmonella* spp. and *Escherichia coli* O157:H7 prevalence and levels on lettuce: A systematic review and meta-analysis. *Food Microbiol.* 2019 Dec;84:103217. doi: 10.1016/j.fm.2019.05.001. Epub 2019 May 25. PubMed PMID: 31421760.

Elhariri M, Elhelw R, Selim S, Ibrahim M, Hamza D, Hamza E. Virulence and Antibiotic Resistance Patterns of Extended-Spectrum Beta-Lactamase-Producing *Salmonella enterica* serovar Heidelberg Isolated from Broiler Chickens and Poultry Workers: A Potential Hazard. *Foodborne Pathog Dis.* 2019 Nov 22. doi:10.1089/fpd.2019.2719. [Epub ahead of print] PubMed PMID: 31755782.

Gavahian M, Peng HJ, Chu YH. Efficacy of cold plasma in producing *Salmonella*-free duck eggs: effects on physical characteristics, lipid oxidation, and fatty acid profile. *J Food Sci Technol.* 2019 Dec;56(12):5271-5281. doi:10.1007/s13197-019-03996-z. Epub 2019 Aug 2. PubMed PMID: 31749474; PubMed Central PMCID: PMC6838404.

Hassan R, Buuck S, Noveroske D, Medus C, Sorenson A, Laurent J, Rotstein D, Schlater L, Freiman J, Douris A, Simmons M, Donovan D, Henderson J, Tewell M, Snyder K, Oni O, Von Stein D, Dassie K, Leeper M, Adediran A, Dowell N, Gieraltowski L, Basler C. Multistate Outbreak of *Salmonella* Infections Linked to Raw Turkey Products - United States, 2017-2019. *MMWR Morb Mortal Wkly Rep.* 2019 Nov 22;68(46):1045-1049. doi:10.15585/mmwr.mm6846a1. PubMed PMID: 31751325; PubMed Central PMCID: PMC6871895.

Helmuth IG, Espenhain L, Ethelberg S, Jensen T, Kjeldgaard J, Litrup E, Schjørring S, Müller L. An outbreak of monophasic *Salmonella* Typhimurium associated with raw pork sausage and other pork products, Denmark 2018-19. *Epidemiol Infect.* 2019 Dec 9;147:e315. doi:10.1017/S0950268819002073. PubMed PMID: 31813408.

Hsu CH, Li C, Hoffmann M, McDermott P, Abbott J, Ayers S, Tyson GH, Tate H, Yao K, Allard M, Zhao S. Comparative Genomic Analysis of Virulence, Antimicrobial Resistance, and Plasmid Profiles of *Salmonella* Dublin Isolated from Sick Cattle, Retail Beef, and Humans in the United States. *Microb Drug Resist.* 2019 Oct;25(8):1238-1249. doi:10.1089/mdr.2019.0045. Epub 2019 May 31. PubMed PMID: 31149890.

Kingsbury JM, Thom K, Soboleva T. Effect of Storage Temperature on the Survival of New Zealand Egg-Associated *Salmonella* Isolates in and on Eggs. *J Food Prot.* 2019 Dec;82(12):2161-2168. doi: 10.4315/0362-028X.JFP-19-251. PubMed PMID: 31742444.

Korir RC, Everts KL, Micallef SA. Interactions Between *Salmonella enterica* Newport, *Fusarium* spp., and Melon Cultivars. *Foodborne Pathog Dis.* 2019 Nov 22. doi:10.1089/fpd.2019.2721. [Epub ahead of print] PubMed PMID: 31755801.

Kudirkiene E, Sørensen G, Torpdahl M, de Knecht LV, Nielsen LR, Rattenborg E, Ahmed S, Olsen JE. A retrospective whole-genome-based study of the epidemiology of *Salmonella* Dublin in cattle and humans in Denmark 1996-2016. *Appl Environ Microbiol.* 2019 Nov 15. pii: AEM.01894-19. doi: 10.1128/AEM.01894-19. [Epub ahead of print] PubMed PMID: 31732576.

Longo A, Losasso C, Vitulano F, Mastroianni E, Turchetto S, Petrin S, Mantovani C, Dalla Pozza MC, Ramon E, Conedera G, Citterio CV, Ricci A, Barco L, Lettini AA. Insight into an outbreak of *Salmonella* Choleraesuis var. Kunzendorf in wild boars. *Vet Microbiol.* 2019 Nov;238:108423. doi:10.1016/j.vetmic.2019.108423. Epub 2019 Sep 20. PubMed PMID: 31648730.

Lucca V, Apellanis Borges K, Quedi Furian T, Borsoi A, Pippi Salle CT, de Souza Moraes HL, Pinheiro do Nascimento V. Influence of the norepinephrine and medium acidification in the growth and adhesion of *Salmonella* Heidelberg isolated from poultry. *Microb Pathog.* 2019 Oct 12;138:103799. doi:10.1016/j.micpath.2019.103799. [Epub ahead of print] PubMed PMID: 31614192.

Magdy OS, Moussa IM, Hussein HA, El-Hariri MD, Ghareeb A, Hemeg HA, Al-Maary KS, Mubarak AS, Alwarhi WK, Eljakee JK, Kabli SA. Genetic diversity of *Salmonella enterica* recovered from chicken farms and its potential transmission to human. *J Infect Public Health.* 2019 Oct 28. pii: S1876-0341(19)30307-7. doi:10.1016/j.jiph.2019.09.007. [Epub ahead of print] PubMed PMID: 31672428.

Michael M, Acuff J, Lopez K, Vega D, Phebus R, Thippareddi H, Channaiah LH. Comparison of survival and heat resistance of *Escherichia coli* O121 and *Salmonella* in muffins. *Int J Food Microbiol.* 2019 Nov 7;317:108422. doi:10.1016/j.ijfoodmicro.2019.108422. [Epub ahead of print] PubMed PMID: 31756646.

Moore MM, Nucci MJ, Madson SM, Wagley GS, Keys CE, Brown EW, McQUISTON JR, Fields PI. Evaluation of a Bead-Based *Salmonella* Molecular Serotyping Method for *Salmonella* Isolated from Food and Environmental Samples. *J Food Prot.* 2019 Nov;82(11):1973-1987. doi: 10.4315/0362-028X.JFP-18-600. PubMed PMID: 31644335.

Petsong K, Benjakul S, Vongkamjan K. Evaluation of storage conditions and efficiency of a novel microencapsulated *Salmonella* phage cocktail for controlling *S. enteritidis* and *S. typhimurium* in-vitro and in fresh foods. *Food Microbiol.* 2019 Oct;83:167-174. doi: 10.1016/j.fm.2019.05.008. Epub 2019 May 22. PubMed PMID: 31202408.

Porter S, Strain SAJ, Bagdonaite G, McDowell SW, Bronckaers T, Sherrey M, Devine P, Pascual-Linaza AV, Spence N, Porter R, Guelbenzu-Gonzalo M, Davies RH, Lahuerta-Marin A. Trends in *Salmonella* serovars and antimicrobial resistance in pigs and poultry in Northern Ireland between 1997 and 2016. *Vet Rec.* 2019 Nov 27. pii: vetrec-2019-105640. doi:10.1136/vr.105640. [Epub ahead of print] PubMed PMID: 31776180.

Radomski N, Cadel-Six S, Cherchame E, Felten A, Barbet P, Palma F, Mallet L, Le Hello S, Weill FX, Guillier L, Mistou MY. A Simple and Robust Statistical Method to Define Genetic Relatedness of Samples Related to Outbreaks at the Genomic Scale - Application to Retrospective *Salmonella* Foodborne Outbreak Investigations. *Front Microbiol.* 2019 Oct 24;10:2413. doi: 10.3389/fmicb.2019.02413. eCollection 2019. PubMed PMID: 31708892; PubMed Central PMCID: PMC6821717.

Ramirez-Hernandez A, Bugarel M, Kumar S, Thippareddi H, Brashears MM, Sanchez-Plata MX. Phenotypic and Genotypic Characterization of Antimicrobial Resistance in *Salmonella* Strains Isolated from Chicken Carcasses and Parts Collected at Different Stages during Processing. *J Food Prot.* 2019 Oct;82(10):1793-1801. doi: 10.4315/0362-028X.JFP-19-056. PubMed PMID: 31545106.

Sloan-Gardner TS, Waters N, Marmor A, Mude W. Free range eggs does not mean safe eggs: an outbreak of *Salmonella* Typhimurium linked to free range eggs. *Commun Dis Intell* (2018). 2019 Oct 15;43. doi: 10.33321/cdi.2019.43.52. PubMed PMID: 31610774.

Tamber S, Montgomery A, Eloranta K, Buenaventura E. Enumeration and Survival of *Salmonella enterica* in Live Oyster Shellstock Harvested from Canadian Waters. *J Food Prot.* 2020 Jan;83(1):6-12. doi: 10.4315/0362-028X.JFP-19-318. PubMed PMID: 31799879.

Thomson RM, Henderson HJ, Smith-Palmer A. An outbreak of *Salmonella* Saintpaul in a Scottish childcare facility: the influence of parental under-reporting. *BMC Infect Dis.* 2019 Oct 15;19(1):847. doi: 10.1186/s12879-019-4516-z. PubMed PMID: 31615435; PubMed Central PMCID: PMC6794835.

Todd-Searle J, Friedrich LM, Oni RA, Shenge K, LeJeune JT, Micallef SA, Danyluk MD, Schaffner DW. Quantification of *Salmonella enterica* transfer between tomatoes, soil, and plastic mulch. *Int J Food Microbiol.* 2019 Dec 13;316:108480. doi:10.1016/j.ijfoodmicro.2019.108480. [Epub ahead of print] PubMed PMID: 31862511.

Varga C, Guerin MT, Brash ML, Slavic D, Boerlin P, Susta L. Antimicrobial resistance in faecal *Escherichia coli* and *Salmonella enterica* isolates: a two-year prospective study of small poultry flocks in Ontario, Canada. *BMC Vet Res.* 2019 Dec 21;15(1):464. doi:10.1186/s12917-019-2187-z. PubMed PMID: 31864357; PubMed Central PMCID: PMC6925488.

Wan J, Guo J, Lu Z, Bie X, Lv F, Zhao H. Development of a test kit for visual loop-mediated isothermal amplification of *Salmonella* in spiked ready-to-eat fruits and

vegetables. *J Microbiol Methods*. 2019 Dec 28;105830. doi: 10.1016/j.mimet.2019.105830. [Epub ahead of print] PubMed PMID: 31891738.

Wang J, Sheng H, Xu W, Huang J, Meng L, Cao C, Zeng J, Meng J, Yang B. Diversity of Serotype, Genotype, and Antibiotic Susceptibility of *Salmonella* Prevalent in Pickled Ready-to-Eat Meat. *Front Microbiol*. 2019 Nov 12;10:2577. doi: 10.3389/fmicb.2019.02577. eCollection 2019. PubMed PMID: 31781073; PubMed Central PMCID: PMC6861215.

Wei S, Chelliah R, Rubab M, Oh DH, Uddin MJ, Ahn J. Bacteriophages as Potential Tools for Detection and Control of *Salmonella* spp. in Food Systems. *Microorganisms*. 2019 Nov 17;7(11). pii: E570. doi: 10.3390/microorganisms7110570. Review. PubMed PMID: 31744260; PubMed Central PMCID: PMC6920764.

Staphylococcus aureus

Chen Q, Xie S, Lou X, Cheng S, Liu X, Zheng W, Zheng Z, Wang H. Biofilm formation and prevalence of adhesion genes among *Staphylococcus aureus* isolates from different food sources. *Microbiologyopen*. 2019 Nov 25:e946. doi:10.1002/mbo3.946. [Epub ahead of print] PubMed PMID: 31769202.

Hu KL, Yu XQ, Chen J, Tang JN, Wang LZ, Li YM, Tang C. Production of characteristic volatile markers and their relation to *Staphylococcus aureus* growth status in pork. *Meat Sci*. 2020 Feb;160:107956. doi:10.1016/j.meatsci.2019.107956. Epub 2019 Oct 23. PubMed PMID: 31677433.

Macori G, Bellio A, Bianchi DM, Chiesa F, Gallina S, Romano A, Zuccon F, Cabrera-Rubio R, Cauquil A, Merda D, Auvray F, Decastelli L. Genome-Wide Profiling of Enterotoxigenic *Staphylococcus aureus* Strains Used for the Production of Naturally Contaminated Cheeses. *Genes (Basel)*. 2019 Dec 27;11(1). pii: E33. doi:10.3390/genes11010033. PubMed PMID: 31892220.

Mostaqim S, Saha SK, Hani U, Paul SK, Sharmin M, Basak S, Begum SA, Salma U, Shahabuddin MS. Antibacterial Activities of Clove (*Syzygium aromaticum*) Extracts Against Three Food Borne Pathogens: *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa*. *Mymensingh Med J*. 2019 Oct;28(4):779-791. PubMed PMID: 31599241.

Nogueira Viçosa G, Vieira Botelho C, Botta C, Bertolino M, Fernandes de Carvalho A, Nero LA, Cocolin L. Impact of co-cultivation with *Enterococcus faecalis* over growth, enterotoxin production and gene expression of *Staphylococcus aureus* in broth and fresh cheeses. *Int J Food Microbiol*. 2019 Nov 2;308:108291. doi: 10.1016/j.ijfoodmicro.2019.108291. Epub 2019 Aug 6. PubMed PMID: 31437692.

Vaiyapuri M, Joseph TC, Rao BM, Lalitha KV, Prasad MM. Methicillin-Resistant *Staphylococcus aureus* in Seafood: Prevalence, Laboratory Detection, Clonal Nature, and Control in Seafood Chain. *J Food Sci*. 2019 Dec;84(12):3341-3351. doi: 10.1111/1750-3841.14915. Epub 2019 Nov 26. Review. PubMed PMID: 31769517.

Wang YT, Lin YT, Wan TW, Wang DY, Lin HY, Lin CY, Chen YC, Teng LJ. Distribution of antibiotic resistance genes among *Staphylococcus* species isolated from ready-to-eat foods. *J Food Drug Anal.* 2019 Oct;27(4):841-848. doi: 10.1016/j.jfda.2019.05.003. Epub 2019 Jun 27. PubMed PMID: 31590755.

Wu SC, Liu F, Zhu K, Shen JZ. Natural Products That Target Virulence Factors in Antibiotic-Resistant *Staphylococcus aureus*. *J Agric Food Chem.* 2019 Dec;67(48):13195-13211. doi: 10.1021/acs.jafc.9b05595. Epub 2019 Nov 21. Review. PubMed PMID: 31702908.

STEC

Abnavi MD, Alradaan A, Munther D, Kothapalli CR, Srinivasan P. Modeling of Free Chlorine Consumption and *Escherichia coli* O157:H7 Cross-Contamination During Fresh-Cut Produce Wash Cycles. *J Food Sci.* 2019 Oct;84(10):2736-2744. doi: 10.1111/1750-3841.14774. Epub 2019 Oct 1. PubMed PMID: 31573690.

Baba H, Kanamori H, Kudo H, Kuroki Y, Higashi S, Oka K, Takahashi M, Yoshida M, Oshima K, Aoyagi T, Tokuda K, Kaku M. Genomic analysis of Shiga toxin-producing *Escherichia coli* from patients and asymptomatic food handlers in Japan. *PLoS One.* 2019 Nov 19;14(11):e0225340. doi: 10.1371/journal.pone.0225340. eCollection 2019. PubMed PMID: 31743366; PubMed Central PMCID: PMC6863542.

de Oliveira Elias S, Noronha TB, Tondo EC. *Salmonella* spp. and *Escherichia coli* O157:H7 prevalence and levels on lettuce: A systematic review and meta-analysis. *Food Microbiol.* 2019 Dec;84:103217. doi: 10.1016/j.fm.2019.05.001. Epub 2019 May 25. PubMed PMID: 31421760.

Frank E, Bonke R, Drees N, Heurich M, Märtlbauer E, Gareis M. Shiga toxin-producing *Escherichia coli* (STEC) shedding in a wild roe deer population. *Vet Microbiol.* 2019 Dec;239:108479. doi: 10.1016/j.vetmic.2019.108479. Epub 2019 Oct 29. PubMed PMID: 31767081.

Hassan R, Seelman S, Peralta V, Booth H, Tewell M, Melius B, Whitney B, Sexto R, Dwarka A, Vugia D, Vidanes J, Kiang D, Gonzales E, Dowell N, Olson SM, Gladney LM, Jhung MA, Neil KP. A Multistate Outbreak of *E. coli* O157:H7 Infections Linked to Soy Nut Butter. *Pediatrics.* 2019 Oct;144(4). pii: e20183978. doi: 10.1542/peds.2018-3978. Epub 2019 Sep 13. PubMed PMID: 31519792; PubMed Central PMCID: PMC6774848.

Hussien H, Elbehiry A, Saad M, Hadad G, Moussa I, Dawoud T, Mubarak A, Marzouk E. Molecular characterization of *Escherichia coli* isolated from cheese and biocontrol of Shiga toxigenic *E. coli* with essential oils. *Ital J Food Saf.* 2019 Oct 1;8(3):8291. doi: 10.4081/ijfs.2019.8291. eCollection 2019 Sep 30. PubMed PMID: 31632932; PubMed Central PMCID: PMC6784595.

Jung Y, Porto-Fett ACS, Shoyer BA, Shane LE, Henry E, Osoria M, Luchansky JB. Survey of Intact and Nonintact Raw Pork Collected at Retail Stores in the Mid-Atlantic Region of the United States for the Seven Regulated Serogroups of Shiga

Toxin-Producing *Escherichia coli*. J Food Prot. 2019 Nov;82(11):1844-1850. doi: 10.4315/0362-028X.JFP-19-192. PubMed PMID: 31599649.

Kintz E, Byrne L, Jenkins C, McCARTHY N, Vivancos R, Hunter P. Outbreaks of Shiga Toxin-Producing *Escherichia coli* Linked to Sprouted Seeds, Salad, and Leafy Greens: A Systematic Review. J Food Prot. 2019 Nov;82(11):1950-1958. doi: 10.4315/0362-028X.JFP-19-014. PubMed PMID: 31638410.

López-Gálvez F, Gil MI, Andújar S, Allende A. Suitability of centrifuge water for detecting the presence of *Escherichia coli* versus finished fresh-cut lettuce testing. Food Microbiol. 2019 Dec;84:103271. doi: 10.1016/j.fm.2019.103271. Epub 2019 Jul 15. PubMed PMID: 31421780.

Thao S, Brandl MT, Carter MQ. Enhanced formation of shiga toxin-producing *Escherichia coli* persister variants in environments relevant to leafy greens production. Food Microbiol. 2019 Dec;84:103241. doi: 10.1016/j.fm.2019.103241. Epub 2019 Jun 14. PubMed PMID: 31421768.

Toxoplasma

Blaga R, Aubert D, Thébault A, Perret C, Geers R, Thomas M, Alliot A, Djokic V, Ortis N, Halos L, Durand B, Mercier A, Villena I, Boireau P. *Toxoplasma gondii* in beef consumed in France: regional variation in seroprevalence and parasite isolation. Parasite. 2019;26:77. doi: 10.1051/parasite/2019076. Epub 2019 Dec 23. PubMed PMID: 31868577; PubMed Central PMCID: PMC6927255.

Castillo-Cuenca JC, Díaz-Cao JM, Martínez-Moreno Á, Cano-Terriza D, Jiménez-Ruiz S, Almería S, García-Bocanegra I. Seroepidemiology of *Toxoplasma gondii* in extensively raised Iberian pigs in Spain. Prev Vet Med. 2019 Nov 19;175:104854. doi: 10.1016/j.prevetmed.2019.104854. [Epub ahead of print] PubMed PMID: 31790931.

Geuthner AC, Koethe M, Ludewig M, Pott S, Schares G, Maksimov P, Dauschies A, Bangoura B. Development of an in vivo model for *Toxoplasma gondii* infections in chickens and turkeys simulating natural routes of infection. Vet Parasitol. 2019 Dec;276:108956. doi: 10.1016/j.vetpar.2019.108956. Epub 2019 Oct 13. PubMed PMID: 31706235.

Gisbert Algaba I, Verhaegen B, Murat JB, Coucke W, Mercier A, Cox E, Dorny P, Dierick K, De Craeye S. Molecular Study of *Toxoplasma gondii* Isolates Originating from Humans and Organic Pigs in Belgium. Foodborne Pathog Dis. 2020 Jan 6. doi: 10.1089/fpd.2019.2675. [Epub ahead of print] PubMed PMID: 31905293.

Paștiu AI, Cozma-Petruț A, Mercier A, Balea A, Galal L, Mircean V, Pusta DL, Bogdan L, Györke A. Prevalence and genetic characterization of *Toxoplasma gondii* in naturally infected backyard pigs intended for familial consumption in Romania. Parasit Vectors. 2019 Dec 16;12(1):586. doi: 10.1186/s13071-019-3842-8. PubMed PMID: 31842955; PubMed Central PMCID: PMC6915976.