

Publications on the Microbial Safety of Nuts and Sesame Seeds

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Note: Publications re aflatoxin are not up to date in this bibliography.

GENERAL PUBLICATIONS

- Almond Board of California. 2010. Pathogen environmental monitoring (PEM). Available at: http://www.almonds.com/sites/default/files/content/attachments/pem_book.pdf.
- Almond Board of California. 2010. Pathogen environmental monitoring go-to-guide. Available at: http://www.almonds.com/sites/default/files/content/attachments/pem_go_to_guide_final1.pdf.
- American Feed Industry Association. 2010. *Salmonella* control guidelines. American Feed Industry Association, Arlington, VA. Available at: <http://ucfoodsafety.ucdavis.edu/files/172958.pdf>.
- American Peanut Council. 2009. Good manufacturing practices and industry best practices for peanut product manufacturers. Available at: <https://www.peanutsusa.com/phocadownload/GMPs/2009%20APC%20GMP%20BP%20Chapter%207%20Peanut%20Product%20Manufacturers%2016%20Nov%2009%20Final%20Edit.pdf>.
- Anderson, D., N. Anderson, L. J. Harris, and W. Ocasio. 2017. Validation requirements in heat-processed low-moisture foods, p. 149–174. *In* R. Podolak and D. G. Black (ed.), *Control of Salmonella and other bacterial pathogens in low-moisture foods*. John Wiley & Sons, Hoboken, NJ.
- Atungulu, G. G., and Z. Pan. 2012. Microbial decontamination of nuts and spices, p.125–162. *In* A. Demirci and M. O. Ngadi (eds.), *Microbial decontamination in the food industry: novel methods and applications*. Woodhead Publishing Ltd., Cambridge, UK.
- Beuchat, L. R., E. Komitopoulou, H. Beckers, R. P. Betts, F. Bourdichon, S. Fanning, H. M. Joosten, and B. H. Ter Kuile. 2013. Low-water activity foods: increased concern as vehicles of foodborne pathogens. *J. Food Prot.* 76:150–172. Available at: <http://dx.doi.org/10.4315/0362-028X.JFP-12-211>.
- Chen, Y., V. N. Scott, T. A. Freier, J. Kuehm, M. Moorman, J. Meyer, T. Morille-Hinds, L. Post, L. Smoot, S. Hood, J. Shebuski, and J. Banks. 2009. Control of *Salmonella* in low-moisture foods II: Hygiene practices to minimize *Salmonella* contamination and growth. *Food Prot. Trends* 29:435–445.
- Chen, Y., V. N. Scott, T. A. Freier, J. Kuehm, M. Moorman, J. Meyer, T. Morille-Hinds, L. Post, L. Smoot, S. Hood, J. Shebuski, and J. Banks. 2009. Control of *Salmonella* in low-moisture foods III: Process validation and environmental monitoring. *Food Prot. Trends* 29:493–508.
- Clavel, D., and C. Brabet. 2013. Mycotoxin contamination of nuts, p. 88–118. *In* L. J. Harris (ed.), *Improving the safety and quality of nuts*. Woodhead Publishing Ltd., Cambridge, UK.
- Codex Alimentarius Commission. 2013. Guidelines for the validation of food safety control measures (CAC/GL 69–2008). Joint FAO/WHO Food Standards Program, FAO, Rome.

- Consortium of Food Process Validation Experts (CFPVE). 2013. Validation of antimicrobial interventions for small and very small processors: A how-to guide to develop and conduct validations. *Food Prot. Trends* 33(2):95–104.
- Deering, A. J., L. J. Mauer, and R. E. Pruitt. 2012. Internalization of *E. coli* O157:H7 and *Salmonella* spp. in plants: A review. *Food Res. Int.* 45(2):567–575.
- Enache, E., R. Podolak, A. Kataoka, and L. J. Harris. 2017. Persistence of *Salmonella* and other bacterial pathogens in low-moisture foods, pp. 67–86. In R. Podolak and D. G. Black (ed.), *Control of Salmonella and other bacterial pathogens in low-moisture foods*. John Wiley & Sons, Hoboken, NJ.
- Frelka, J. C., and L. J. Harris. 2014. Nuts and nut pastes, p. 213–244. In J. B. Gurtler, M. P. Doyle, and J. L. Kornacki (eds.), *The microbiological safety of low water activity foods and spices*. Springer, New York. doi:10.1007/978-1-4939-2062-4_12
- Garces-Vega, F., S. Jeong, K. Dolan, and B. Marks. 2016. Modeling *Salmonella* inactivation in low moisture foods: using parameter estimation to improve model performance. *Procedia Food Science* 7:41–46.
- Grocery Manufacturers Association. 2009. Control of *Salmonella* in low-moisture foods. GMA *Salmonella* Control Task Force, Grocery Manufacturers Association, Washington, DC. Available at: <http://www.gmaonline.org/downloads/wygwam/SalmonellaControlGuidance.pdf>.
- Grocery Manufacturers Association. 2016. Industry handbook for safe processing of nuts, 2nd edition. GMA Nut Safety Task Force, Grocery Manufacturers Association, Washington, DC. Available from: <http://www.gmaonline.org/forms/store/ProductFormPublic/industry-handbook-for-safe-processing-of-nuts>.
- Harris, L. J. 2012. Prevention and control of *Salmonella* and enterohemorrhagic *E. coli* in tree nuts. FAO EMPRES Food Safety Series No. 2. Available at: http://www.fao.org/fileadmin/templates/agns/pdf/EMPRES_FS_SeriesNo2.pdf.
- Harris, L. J. (ed.). 2013. Improving the safety and quality of nuts. Woodhead Publishing Ltd., Cambridge.
- Harris, L. J., J. R. Shebuski, M. D. Danyluk, M. S. Palumbo, and L. R. Beuchat. 2013. Nuts, seeds, and cereals, p. 203–221. In M. P. Doyle and R. L. Buchanan (ed.), *Food microbiology: Fundamentals and frontiers*, 4th ed. ASM Press, Washington, DC.
- Hurst, W. C. 2013. Integrating hazard analysis critical control point (HACCP) and statistical process control (SPC) for safer nut processing, p. 119–147. In L. J. Harris (ed.), *Improving the safety and quality of nuts*. Woodhead Publishing Ltd., Cambridge, UK.
- Ivarsson, C. 2013. Validation of processes for reducing the microbial load on nuts, p. 148–170. In L. J. Harris (ed.), *Improving the safety and quality of nuts*. Woodhead Publishing Ltd., Cambridge, UK.
- King, A. D., Jr., and T. Jones. 2001. Nut meats, p. 561–563. In F. P. Downes and K. Ito (ed.), *Compendium of methods for the microbiological examination of foods*, 4th ed. American Public Health Association, Washington, DC.
- Kopit, L. M., E. B. Kim, R. J. Siezen, L. J. Harris, and M. L. Marco. 2014. Safety of the surrogate microorganism *Enterococcus faecium* NRRL B-2354 for use in thermal process validation. *Appl. Environ. Microbiol.* 80:1899–1909. Available at: <http://dx.doi.org/10.1128/AEM.03859-13>.

- Lee, L. E., D. Metz, M. Giovanni, and C. M. Bruhn. 2011. Consumer knowledge and handling of tree nuts: food safety implications. *Food Prot. Trends* 31:18–27. Available at: <http://www.foodprotection.org/files/food-protection-trends/Jan-11-Bruhn.pdf>.
- National Advisory Committee on Microbiological Criteria for Foods. 2006. Requisite scientific parameters for establishing the equivalence of alternative methods of pasteurization. *J. Food Prot.* 69(5):1190–1216. [Also available at: https://www.fsis.usda.gov/wps/wcm/connect/71289a75-d356-4ee6-be6e-f69aded2f153/NACMCF_JFP_Manuscript_05-702.pdf?MOD=AJPERES.]
- Pan, Z., G. Bingol, M. T. Brandl, and T. H. McHugh. 2012. Review of current technologies for reduction of *Salmonella* populations on almonds. *Food Bioprocess Technol.* 5:2046–2057.
- Podolak, R., and D. G. Black (ed.). 2017. Control of *Salmonella* and other bacterial pathogens in low-moisture foods. John Wiley & Sons, Hoboken, NJ.
- Podolak, R., E. Enache, W. Stone, D. G. Black, and P. H. Elliott. 2010. Sources and risk factors for contamination, survival, persistence, and heat resistance of *Salmonella* in low-moisture foods. *J. Food Prot.* 73:1919–1936.
- Podolak, R., L. Lucore, and L. J. Harris. 2017. Heat resistance of *Salmonella* and other bacterial pathogens in low-moisture foods, p. 121–148. In R. Podolak and D. G. Black (ed.), Control of *Salmonella* and other bacterial pathogens in low-moisture foods. John Wiley & Sons, Hoboken, NJ.
- Prakash, A. 2012. Irradiation of nuts, p. 317–336. In X. Fan and C. H. Sommers (ed.), Food irradiation research and technology, 2nd ed. John Wiley & Sons, Inc., Hoboken, NJ.
- Prakash, A. 2013. Non-thermal processing technologies to improve the safety of nuts, p. 35–55. In L. J. Harris (ed.), Improving the safety and quality of nuts. Woodhead Publishing Ltd., Cambridge, UK.
- Santillana Farakos, S. M., M. Danyluk, D. Schaffner, R. Pouillot, L. J. Harris, and B. P. Marks. 2017. Modeling and statistical issues related to *Salmonella* in low water activity foods, p. 219–240. In R. Podolak and D. G. Black (ed.), Control of *Salmonella* and other bacterial pathogens in low-moisture foods. John Wiley & Sons, Hoboken, NJ.
- Santillana Farakos, S. M., R. Pouillot, N. Anderson, R. Johnson, I. Son, and J. Van Doren. 2016. Modeling the survival kinetics of *Salmonella* in tree nuts for use in risk assessment. *Int. J. Food Microbiol.* 227:41–50. Available at: <http://dx.doi.org/10.1016/j.ijfoodmicro.2016.03.014>.
- Schaffner, D. W., R. Buchanan, S. Calhoun, M. D. Danyluk, L. J. Harris, D. Djordjevic, R. Whiting, B. Kottapalli, and M. Wiedmann. 2013. Issues to consider when setting intervention targets with limited data for low-moisture food commodities: a peanut case study. *J. Food Prot.* 2:360–369. Available at: <http://dx.doi.org/10.4315/0362-028X.JFP-12-171>.
- Scott, V. N., Y. Chen, T. A. Freier, J. Kuehm, M. Moorman, J. Meyer, T. Morille-Hinds, L. Post, L. Smoot, S. Hood, J. Shebuski, and J. Banks. 2009. Control of *Salmonella* in low-moisture foods I: Minimizing entry of *Salmonella* into a processing facility. *Food Prot. Trends* 29:342–353.
- Shah, M. K., G. Asa, J. Sherwood, K. Graberb, and T. M. Bergholz. 2017. Efficacy of vacuum steam pasteurization for inactivation of *Salmonella* PT 30, *Escherichia coli* O157:H7 and *Enterococcus faecium* on low moisture foods. *Int. J. Food Microbiol.* 244:111–118. [sunflower kernels, flaxseed]
- Shekar, A., L. Babu, S. Ramlal, M. H. Sripathy, and H. Batra. 2017. Selective and concurrent detection of viable *Salmonella* spp., *E. coli*, *Staphylococcus aureus*, *E. coli* O157: H7, and

- Shigella* spp., in low moisture food products by PMA-mPCR assay with internal amplification control. *LWT-Food Sci. Technol.* 86:586–593. [peanut butter]
- St. Clair, V. J., and M. M. Klenk. 1990. Performance of three methods for the rapid identification of *Salmonella* in contaminated foods and feeds. *J. Food Prot.* 53:961–964.
- U.S. Food and Drug Administration. 2012. Guidance for industry: Testing for *Salmonella* species in human foods and direct-human-contact animal foods. Available at: <http://www.fda.gov/downloads/Food/GuidanceRegulation/UCM295298.pdf>.
- Wareing, P. W., L. Nicolaidis, and D. R. Twiddy. 2000. Nuts and nut products, p. 919–940. In B. M. Lund, T. C. Baird-Parker, and G. W. Gould (ed.), *The microbiological safety and quality of food*, vol. 1. Aspen Publishers, Gaithersburg, MD.
- Wells, M. L. 2013. Agricultural practices to reduce microbial contamination of nuts, p. 3–21. In L. J. Harris (ed.), *Improving the safety and quality of nuts*. Woodhead Publishing Ltd., Cambridge, UK.

OUTBREAK REPORTS

- Aavitsland P., O. Alvseike, P. J. Guérin, and T. L. Stavnes. 2001. International outbreak of *Salmonella* Typhimurium DT104 – update from Norway. *Eurosurveillance* 5(33), 16 August:1701. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1701>.
- Bedard, B., B. S. Kennedy, and A. C. Weimer. 2014. Geographical information software and shopper card data, aided in the discovery of a *Salmonella* Enteritidis outbreak associated with Turkish pine nuts. *Epidemiol. Inf.* 142:2567–2571.
- Brockmann, S. 2001. International outbreak of *Salmonella* Typhimurium DT104 due to contaminated sesame seed products – update from Germany (Baden-Württemberg). *Eurosurveillance* 5(33), 16 August:1699. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1699>.
- California Department of Public Health. 2002. Environmental investigation of *Salmonella* Enteritidis Phage Type 30 outbreak associated with consumption of raw almonds. [Note: document fdb%20eru%20Almond%20SE%20Rpt%202001-2002 is no longer available online from CDPH.]
- California Department of Public Health. 2004. Environmental investigation of *Salmonella* Enteritidis Phage Type 9c outbreak associated with consumption of raw almonds. [Note: document fdb%20eru%20Almond%20SE2004 is no longer available online from CDPH.]
- California Department of Public Health. 2013. Environmental investigation of the *Escherichia coli* O157:H7 outbreak in Minnesota, Michigan, Wisconsin, and Canada associated with hazelnuts – January 2011. [Note: document fdbEIRDF2011 is no longer available online from CDPH.]
- Canadian Food Inspection Agency. 2011. Certain bulk and prepackaged raw shelled walnuts may contain *E. coli* O157:H7 bacteria. Health hazard alert, April 4, 2011, updated April 8 and 11. Available at: <http://www.inspection.gc.ca/about-the-cfia/newsroom/food-recall-warnings/complete-listing/2011-04-04/eng/1359548340145/1359548340176>.
- Cavallaro, E., K. Date, C. Medus, S. Meyer, B. Miller, C. Kim, S. Nowicki, S. Cosgrove, D. Sweat, Q. Phan, J. Flint, E. R. Daly, J. Adams, E. Hyytia-Trees, P. Gerner-Smidt, R. M. Hoekstra, C. Schwensohn, A. Langer, S. V. Sodha, M. C. Rogers, F. J. Angulo, R. V. Tauxe, I. T. Williams, and C. Barton Behravesh. 2011. *Salmonella* Typhimurium infections

- associated with peanut products. *N. Engl. J. Med.* 365: 601–610. Available at: <http://dx.doi.org/10.1056/NEJMoa1011208>.
- Centers for Disease Control and Prevention. 1991. Cholera associated with imported frozen coconut milk—Maryland, 1991. *MMWR Weekly* 40(49):844–845. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/00015726.htm>.
- Centers for Disease Control and Prevention. 2004. Outbreak of *Salmonella* serotype Enteritidis infections associated with raw almonds—United States and Canada, 2003–2004. *MMWR Weekly* 53(22):484–487. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5322a8.htm>.
- Centers for Disease Control and Prevention. 2007. Multistate outbreak of *Salmonella* serotype Tennessee infections associated with peanut butter—United States, 2006–2007. *MMWR Weekly* 56(21):521–524. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5322a8.htm>.
- Centers for Disease Control and Prevention. 2009. Multistate outbreak of *Salmonella* infections associated with peanut butter and peanut butter-containing products—United States, 2008–2009. *MMWR Weekly* 58(4):85–90. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5804a4.htm>.
- Centers for Disease Control and Prevention. 2009. Multistate outbreak of *Salmonella* infections linked to pistachio nuts (final update). Available at: <https://www.cdc.gov/salmonella/2009/pistachio-nuts-4-14-2009.html>.
- Centers for Disease Control and Prevention. 2010. Multistate outbreak of *Salmonella* Typhimurium infections linked to peanut butter, 2008–2009 (final update). Available at: <http://www.cdc.gov/salmonella/typhimurium/update.html>.
- Centers for Disease Control and Prevention. 2011. Investigation update: multistate outbreak of *E. coli* O157:H7 infections associated with in-shell hazelnuts (final update). Available at: <http://www.cdc.gov/ecoli/2011/hazelnuts0157/index.html>.
- Centers for Disease Control and Prevention. 2011. Multistate outbreak of human *Salmonella* Enteritidis infections linked to Turkish pine nuts (final update). Available at: <http://www.cdc.gov/salmonella/2011/pine-nuts-11-17-2011.html>.
- Centers for Disease Control and Prevention. 2012. Multistate outbreak of *Salmonella* Bredeney infections linked to peanut butter manufactured by Sunland, Inc. (final update). Available at: <http://www.cdc.gov/salmonella/bredeney-09-12/index.html>.
- Centers for Disease Control and Prevention. 2012. Multistate outbreak of *Salmonella* serotype Bovismorbificans infections associated with hummus and tahini—United States, 2011. *MMWR Weekly* 61(46):944–947. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6146a3.htm?s_cid=mm6146a3_w.
- Centers for Disease Control and Prevention. 2013. Notes from the field: *Salmonella* Bredeney infections linked to a brand of peanut butter—United States, 2012. *MMWR Weekly* 62(6):107. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6206a4.htm?s_cid=mm6206a4_e.
- Centers for Disease Control and Prevention. 2013. Multistate outbreak of *Salmonella* Montevideo and *Salmonella* Mbandaka infections linked to tahini sesame paste (final update). Available at: <http://www.cdc.gov/salmonella/montevideo-tahini-05-13/>.
- Centers for Disease Control and Prevention. 2014. Multistate outbreak of *Salmonella* Braenderup infections linked to nut butter manufactured by nSpired Natural Foods, Inc. (final update). Available at: <http://www.cdc.gov/salmonella/braenderup-08-14/index.html>.

- Centers for Disease Control and Prevention. 2014. Multistate outbreak of *Salmonella* Stanley infections linked to raw cashew cheese (final update). Available at: <http://www.cdc.gov/salmonella/stanley-01-14/index.html>.
- Centers for Disease Control and Prevention. 2015. Multistate outbreak of *Salmonella* Paratyphi B variant L(+) tartrate(+) infections linked to JEM Raw brand sprouted nut butter spreads (final update). Available at: <http://www.cdc.gov/salmonella/paratyphi-b-12-15/index.html>.
- Centers for Disease Control and Prevention. 2016. Multistate outbreak of *Salmonella* Montevideo and *Salmonella* Senftenberg infections linked to Wonderful Pistachios (final update). Available at: <http://www.cdc.gov/salmonella/montevideo-03-16/index.html>.
- Centers for Disease Control and Prevention. 2018. Multistate outbreak of *Salmonella* infections linked to Coconut Tree Brand frozen Shredded Coconut. Available at: <https://www.cdc.gov/salmonella/coconut-01-18/index.html>.
- Chan, E. S., J. Aramini, B. Ciebin, D. Middleton, R. Ahmed, M. Howes, I. Brophy, I. Mentis, F. Jamieson, F. Rodgers, M. Nazarowec-White, S. C. Pichette, J. Farrar, M. Gutierrez, W. J. Weis, L. Lior, A. Ellis, and S. Isaacs. 2002. Natural or raw almonds and an outbreak of a rare phage type of *Salmonella* Enteritidis infection. *Can. Commun. Dis. Rept.* 28:97–99. Available at: <http://www.collectionscanada.gc.ca/webarchives/20071220082522/http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02pdf/cdr2812.pdf>.
- Chou, J. H., P. H. Hwang, and M. D. Malison. 1988. An outbreak of type A foodborne botulism in Taiwan due to commercially preserved peanuts. *Int. J. Epidemiol.* 17:899–902.
- de Jong, B., Y. Andersson, I. S. Fisher, K.-A. O’Grady, and J. Powling. 2001. International outbreak of *Salmonella* Typhimurium DT104—update from Enter-Net. *Eurosurveillance* 5(32), 9 August:1705. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1705>.
- de Jong, B., Y. Andersson, J. Giesecke, L. Hellström, U. Stamer, and R. Wollin. 2001. *Salmonella* Typhimurium outbreak in Sweden from contaminated jars of helva (or halva). *Eurosurveillance* 5(29), 19 July:1715. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1715>.
- European Centre for Disease Prevention and Control. 2017. Cluster of new *Salmonella* serotype cases with antigenic formula 11:z41:enz15 in four EU Member States. Available at: <http://ecdc.europa.eu/en/publications/Publications/20-mar-2017-RRA-cluster-new-Salmonella-serotypes-four-eu-member-states.pdf>. [sesame-based food products]
- Food Standards Australia New Zealand. 2012. Warning and advice on raw almonds and possible *Salmonella* contamination. Available at: <http://www.foodstandards.gov.au/media/pages/mediareleases/mediareleases2012/23october2012warning5699.aspx>.
- Gerner-Smith, P., and J. M. Whichard. 2008. Foodborne disease trends and reports. *Foodborne Pathog. Dis.* 5:3–5.
- Harker, K. S., C. Lane, F. J. Gormley, and G. K. Adak. 2013. National outbreaks of *Salmonella* infection in the UK, 2000–2011. *Epidemiol. Infect.* 142:601–607. [re: chocolate-coated Brazil nuts]
- Isaacs, S., J. Aramini, B. Ciebin, J. A. Farrar, R. Ahmed, D. Middleton, A. U. Chandran, L. J. Harris, M. Howes, E. Chan, A. S. Pichette, K. Campbell, A. Gupta, L. Y. Lior, M. Pearce, C. Clark, F. Rodgers, F. Jamieson, I. Brophy, and A. Ellis. 2005. An international outbreak of

- salmonellosis associated with raw almonds contaminated with a rare phage type of *Salmonella* Enteritidis. *J. Food Prot.* 68:191–198.
- Kase, J. A., G. Zhang, and Y. Chen. 2017. Recent foodborne outbreaks in the United States linked to atypical vehicles – lessons learned. *Current Opinion in Food Science* 18:56–63.
- Keady, S., G. Briggs, J. Farrar, J. C. Mohle-Boetani, J. O’Connell, S. B. Werner, D. Anderson, L. Tenglesen, S. Bidols, B. Albanese, C. Gordan, E. Debess, J. Hatch, W. E. Keene, M. Plantenga, J. Tierheimer, A. L. Hackman, C. E. Rinehardt, C. H. Sandt, A. Ingram, S. Hansen, S. Hurt, M. Poulson, R. Pallipamu, J. Wicklund, C. Braden, J. Lockett, S. Van Duyne, A. Dechet, and C. Smesler. 2004. Outbreak of *Salmonella* serotype Enteritidis infections associated with raw almonds—United States and Canada, 2003–2004. *MMWR Weekly* 53(22):484–487. [same as: Centers for Disease Control and Prevention, 2004]
- Killalea, D., L. R. Ward, D. Roberts, J. de Louvois, F. Sufi, J. M. Stuart, P. G. Wall, M. Susman, M. Schwieger, P. J. Sanderson, I. S. T. Fisher, P. S. Mead, O. N. Gill, C. L. R. Bartlett, and B. Rowe. 1996. International epidemiological and microbiological study of outbreak of *Salmonella* Agona infection from a ready to eat savoury snack—I: England and Wales and the United States. *Br. Med. J.* 313:1105–1107. Available at: <http://dx.doi.org/10.1136/bmj.313.7065.1105>.
- Kirk, M. D., C. L. Little, M. Lem, M. Fyfe, D. Genobile, A. Tan, J. Threlfall, A. Paccagenella, D. Lightfoot, H. Lyi, L. McIntyre, L. Ward, D. J. Brown, S. Surnam, and I. S. T. Fisher. 2004. An outbreak due to peanuts in their shell caused by *Salmonella enterica* serotypes Stanley and Newport – sharing molecular information to solve international outbreaks. *Epidemiol. Infect.* 132:571–577.
- Ledet Müller, L., M. Hjertqvist, L. Payne, H. Pettersson, A. Olsson, L. Plym Forshell, and Y. Andersson. 2007. Cluster of *Salmonella* Enteritidis in Sweden 2005-2006 – suspected source: almonds. *Eurosurveillance* 12(6), 1 June:718. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=718>.
- Li, Y., and K. R. Schneider. 2016. Microbiological hazard outbreaks in nuts and nuts-related food, p. 63–77. In J. M. Soon, L. Manning, and C. A. Wallace (ed.), *Foodborne diseases: Case studies of outbreaks in the agri-food industries*, CRC Press, Boca Raton, FL.
- Little, C. 2001. International outbreak of *Salmonella* Typhimurium DT104 – update from the United Kingdom. *Eurosurveillance* 5(33), 16 August:1700. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1700>.
- Miller, B. D., C. E. Rigdon, J. Ball, J. M. Rounds, R. F. Klos, B. M. Brennan, K. D. Arends, P. Kennelly, C. Hedberg, and K. E. Smith. 2012. Use of traceback methods to confirm the source of a multistate *Escherichia coli* O157:H7 outbreak due to in-shell hazelnuts. *J. Food Prot.* 75:320–327.
- New Zealand Public Health Surveillance. 2013. Human *Salmonella* isolates, 2012. Available at: https://surv.esr.cri.nz/enteric_reference/human_salmonella.php?we_objectID=3315.
- O’Grady, K. A., J. Powling, A. Tan, M. Valcanis, D. Lightfoot, J. Gregory, K. Lalor, R. Guy, B. Ingle, R. Andrews, S. Crerar, and R. Stafford. 2001. *Salmonella* Typhimurium DT104 – Australia, Europe. Archive no. 20010822.1980. Available at: <http://www.promedmail.org>.
- Oliver, G. 1996. The *Salmonella* Mbandaka outbreak – an Australian overview. *Commun. Dis. Intell.* 20(14):326. Available at: <http://www.health.gov.au/cdi>.
- O’Mahony, M., E. Mitchell, R. J. Gilbert, D. N. Hutchinson, N. T. Begg, J. C. Rodhouse, and J. E. Morris. 1990. An outbreak of foodborne botulism associated with contaminated hazelnut yoghurt. *Epidemiol. Infect.* 104:385–395.

- Oregon Health Authority. 2017. Salmonellosis cases linked to hazelnuts sold at roadside stand. Available at: <http://www.oregon.gov/oha/ERD/Pages/Salmonellosis-Linked-Hazelnut.aspx>.
- OzFoodNet Working Group. 2003. Foodborne disease in Australia: incidence, notifications and outbreaks. Annual report of the OzFoodNet network, 2002. *Commun. Dis. Intell.* 27(2):209–243. Available at: <http://www.health.gov.au/cdi>.
- OzFoodNet Working Group. 2010. OzFoodNet quarterly report, 1 April to 30 June 2010. *Commun. Dis. Intell.* 34(3):345–354. Available at: <http://www.health.gov.au/cdi>.
- Paine, S., C. Thornley, M. Wilson, M. Dufour, K. Sexton, J. Miller, G. King, S. Bell, D. Bandaranayake, and G. Mackereth. 2014. An outbreak of multiple serotypes of *Salmonella* in New Zealand linked to consumption of contaminated tahini imported from Turkey. *Foodborne Path. Dis.* 11(11):887–892.
- Public Health Agency of Canada. 2011. Public health advisory: *E. coli* outbreak. Public Health Agency of Canada press release April 4. Available at: <http://www.marketwire.com/press-release/Public-Advisory-E-coli-Outbreak-1422244.htm>.
- Scheil, W., S. Cameron, C. Dalton, C. Murray, and D. Wilson. 1998. A South Australian *Salmonella* Mbandaka outbreak investigation using a database to select controls. *Aust. N.Z. J. Public Health* 22:536–539.
- Scheil, W., C. Dalton, S. Cameron, and C. Murray. 1997. A multi-state *Salmonella* Mbandaka outbreak associated with peanut butter: the South Australian experience. *J. Clin. Epidemiol.* 50 (Supp. 1):18S.
- Sheppard, Y. D., D. Middleton, Y. Whitfield, F. Tyndel, S. Haider, J. Spiegelman, R. H. Swartz, M. P. Nelder, S. L. Baker, L. Landry, R. MacEachern, S. Deamond, L. Ross, G. Peters, M. Baird, D. Rose, G. Sanders, and J. W. Austin. 2012. Intestinal toxemia botulism in 3 adults, Ontario, Canada, 2006–2008. *Emerg. Infect. Dis.* 18:1–6. Available at: <http://wwwnc.cdc.gov/eid/article/18/1/pdfs/11-0533.pdf>.
- Sheth, A. N., M. Hoekstra, N. Patel, G. Ewald, C. Lord, C. Clarke, E. Villamil, K. Nicksich, C. Bopp, T.-A. Nguyen, D. Zink, and M. Lynch. 2011. A national outbreak of *Salmonella* serotype Tennessee infections from contaminated peanut butter: a new food vehicle for salmonellosis in the United States. *Clin. Infect. Dis.* 53(4):356–362. Available at: <http://dx.doi.org/10.1093/cid/cir407>.
- Shohat, T., M. S. Green, D. Merom, O. N. Gill, A. Reisfeld, A. Matas, D. Blau, N. Gal, and P. E. Slater. 1996. International epidemiological and microbiological study of outbreak of *Salmonella* Agona infection from a ready to eat savoury snack—II: Israel. *Br. Med. J.* 313:1107–1109. <http://dx.doi.org/10.1136/bmj.313.7065.1107>
- Tauxe, R. V., S. J. O’Brien, and M. Kirk. 2008. Outbreaks of food-borne diseases related to the international food trade. p. 69–112. In M. P. Doyle, and M. C. Erickson (ed.), *Imported food: Microbiological issues and challenges*. ASM Press, Washington, DC. [re: sesame]
- Taylor, J. L., J. Tuttle, T. Pramukul, K. O’Brien, T. J. Barrett, B. Jolbitado, Y. L. Lim, D. Vugia, J. G. Morris, R. V. Tauxe, and D. M. Dwyer. 1993. An outbreak of cholera in Maryland associated with imported commercial frozen fresh coconut milk. *J. Infect. Dis.* 167:1330–1335. Available at: <http://dx.doi.org/10.1093/infdis/167.6.1330>.
- Teoh, Y. L., K. T. Goh, K. S. Neo, and M. Yeo. 1997. A nationwide outbreak of coconut-associated paratyphoid A fever in Singapore. *Ann. Acad. Med. Singapore* 26:544–548.
- Unicomb, L. E., G. Simmons, T. Merritt, J. Gregory, C. Nicol, P. Jelfs, M. Kirk, A. Tan, R. Thomson, J. Adamopoulos, C. L. Little, A. Currie, and C. B. Dalton. 2005. Sesame seed

- products contaminated with *Salmonella*: three outbreaks associated with tahini. *Epidemiol. Infect.* 133:1065–1072.
- U.S. Food and Drug Administration. 2014. FDA investigation summary – Multistate outbreak of *Salmonella* Senftenberg infections associated with pistachios from a California roaster. Available at: <http://www.fda.gov/Food/RecallsOutbreaksEmergencies/Outbreaks/ucm386377.htm>.
- Ward, L., S. Brusin, G. Duckworth, and S. O'Brien. 1999. *Salmonella* java phage type Dundee—rise in cases in England: update. *Eurosurveillance* 3(12), 18 March:1435. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1435>.
- Whitworth, J. 2014. *Salmonella* from cashews sickens 14. *Food Quality News*, January 6. Available at: <http://www.foodqualitynews.com/Food-Alerts/Salmonella-from-cashews-sickens-14>.
- Wilson, M. M., and E. F. Mackenzie. 1955. Typhoid fever and salmonellosis due to consumption of infected desiccated coconut. *J. Appl. Bacteriol.* 18:510–521.

SURVEY DATA

- Abdelnoor A. M., R. Batshoun, and B. M. Roumani. 1983. The bacterial flora of fruits and vegetables in Lebanon and the effect of washing on the bacterial content. *Zentralbl. Bakteriol. Mikrobiol. Hyg. B* 177:342–349.
- Al-Moghazy, M., S. Boveri, and A. Pulvirenti. 2014. Microbiological safety in pistachios and pistachio containing products. *Food Control* 36:88–93.
- Arrus, K., G. Blank, R. Clear, R. A. Holley, and D. Abramson. 2005. Microbiological and aflatoxin evaluation of Brazil nut pods and the effects of unit processing operations. *J. Food Prot.* 68:1060–1065.
- Bansal, A., T. M. Jones, S. J. Abd, M. D. Danyluk, and L. J. Harris. 2010. Most-probable-number determination of *Salmonella* levels in naturally contaminated raw almonds using two sample preparation methods. *J. Food Prot.* 73:1986–1992.
- Brar, P. K., L. K. Strawn, and M. D. Danyluk. 2016. Prevalence, level, and types of *Salmonella* isolated from North American in-shell pecans over four harvest years. *J. Food Prot.* 79:352–360. Available at: <http://dx.doi.org/10.4315/0362-028X.JFP-15-365>.
- Brockmann, S. O., I. Piechotowski, and P. Kimmig. 2004. *Salmonella* in sesame seed products. *J. Food Prot.* 67:178–180.
- Calhoun, S., L. Post, B. Warren, S. Thompson, and A. R. Bontempo. 2013. Prevalence and concentration of *Salmonella* on raw shelled peanuts in the United States. *J. Food Prot.* 76(4):575–579.
- Candlish, A. A. G., S. M. Pearson, K. E. Aidoo, J. E. Smith, B. Kelly, and H. Irvine. 2001. A survey of ethnic foods for microbial quality and aflatoxin content. *Food Addit. Contam.* 18:129–136.
- Chipley, J. R., and E. K. Heaton. 1971. Microbial flora of pecan meat. *Appl. Microbiol.* 22:252–253. Available at: <http://aem.asm.org/content/22/2/252.full.pdf+html>.
- Danyluk, M. D., T. M. Jones, S. J. Abd, F. Schlitt-Dittrich, M. Jacobs, and L. J. Harris. 2007. Prevalence and amounts of *Salmonella* found on raw California almonds. *J. Food Prot.* 70:820–827.

- Davidson, G. R., J. C. Frelka, M. Yang, T. M. Jones, and L. J. Harris. 2015. Prevalence of *Escherichia coli* O157:H7 and *Salmonella* on inshell California walnuts. *J. Food Prot.* 78:1547–1553. doi:10.4315/0362-028X.JFP-15-001
- Eglezos, S. 2010. The bacteriological quality of retail-level peanut, almond, cashew, hazelnut, Brazil, and mixed nut kernels produced in two Australian nut-processing facilities over a period of 3 years. *Foodborne Pathog. Dis.* 7:863–866.
- Eglezos, S., B. Huang, and E. Stuttard. 2008. A survey of the bacteriological quality of preroasted peanut, almond, cashew, hazelnut and Brazil nut kernels received into three Australian nut-processing facilities over a period of 3 years. *J. Food Prot.* 71:402–404.
- Fernandez, W. L. 1988. Microbial examination of mature coconut fruit. *Philippine Agriculturist* 71:13–20.
- Freire, F. C. O., and L. Offord. 2002. Bacterial and yeast counts in Brazilian commodities and spices. *Brazilian J. Microbiol.* 33:145–148. Available at: <http://dx.doi.org/10.1590/S1517-83822002000200009>.
- Harris, L. J., V. Lieberman, R. P. Mashiana, E. Atwill, M. Yang, J. C. Chandler, B. Bisha, and T. Jones. 2016. Prevalence and amounts of *Salmonella* found on raw California inshell pistachios. *J. Food Prot.* 79:1304–1315. doi:10.4315/0362-028X.JFP-16-054
- Hyndman, J. B. 1963. Comparison of enterococci and coliform microorganisms in commercially produced pecan nut meats. *Appl. Microbiol.* 11:268–272. Available at: <http://aem.asm.org/content/11/3/268.full.pdf+html>.
- Kajs, T. M., R. Hagenmaier, C. Vanderzant, and K. F. Mattil. 1976. Microbiological evaluation of coconut and coconut products. *J. Food Sci.* 41:352–356.
- King, A. D., Jr., M. J. Miller, and L. C. Eldridge. 1970. Almond harvesting, processing, and microbial flora. *Appl. Microbiol.* 20:208–214. Available at: <http://aem.asm.org/content/20/2/208.full.pdf+html>.
- King, A. D., Jr., and J. E. Schade. 1986. Influence of almond harvest, processing and storage on fungal populations and flora. *J. Food Sci.* 51:202–205.
- Kokal, D., and D. W. Thorpe. 1969. Occurrence of *Escherichia coli* in almonds of Nonpareil variety. *Food Technol.* 23(February):93–98.
- Kovacs, N. 1959. Salmonellae in desiccated coconut, egg pulp, fertilizer, meat-meal and mesenteric glands: preliminary report. *Med. J. Aust.* 46:557–559.
- Krishnaswamy, M. A., N. Parthasarathy, J. D. Patel, and K. K. S. Nair. 1973. Further studies on microbiological quality of cashew nut (*Anacardium occidentale*). *J. Food Sci. Technol.* 10:24–26.
- Lambertini, E., M. D. Danyluk, D. W. Schaffner, C. K. Winter, and L. J. Harris. 2012. Risk of salmonellosis from consumption of almonds in the North American market. *Food Res. Int.* 45:1166–1174. doi:10.1016/j.foodres.2011.05.039
- Lieberman, V., M. Yang, T. Jones, E. Atwill, and L. J. Harris. 2015. Presence and levels of *Salmonella* on raw California pistachios. In Poster abstracts, International Association for Food Protection Annual Meeting, Portland, OR, July 25–28, abstract P1-84. Available at: <https://iafp.confex.com/iafp/2015/webprogram/Paper9775.html>.
- Lima, J. R., L. M. Bruno, and M. de F. Borges. 2006. An evaluation of the physiochemical, microbiological and organoleptic quality of almond, hazelnut and cashew nut paste sold in Fortaleza in Ceara State. *Higiene Alimentar.* 20:51–54.

- Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.
- Little, C. L., N. Rawal, E. de Pinna, and J. McLaughlin. 2010. Survey of *Salmonella* contamination of edible nut kernels on retail sale in the UK. *Food Microbiol.* 27:171–174.
- Marcus, K. A., and H. J. Amling. 1973. *Escherichia coli* field contamination of pecan nuts. *Appl. Microbiol.* 26:279–281. Available at: <http://aem.asm.org/content/26/3/279.full.pdf+html>.
- NSW Food Authority. 2012. Report on the prevalence of *Salmonella* and *E. coli* in ready to eat nuts and nut products sold in Australia. Available at: http://www.foodauthority.nsw.gov.au/Documents/scienceandtechnical/national_nut_survey.pdf.
- Ostrolenk, M., and A. C. Hunter. 1939. Bacteria of the colon-aerogenes group on nut meats. *Food Research (J. Food Sci.)* 4:453–460.
- Ostrolenk, M., and H. Welch. 1940. Incidence and significance of the colon-aerogenes group on pecan meats. *Food Research (J. Food Sci.)* 6:117–125.
- Pitt, J. I., A. D. Hocking, K. Bhudhasamia, B. F. Miscamble, K. A. Wheeler, and P. Tanboon-Ek. 1993. The normal mycoflora of commodities from Thailand. 1. Nuts and oilseeds. *Int. J. Food Microbiol.* 20:211–226.
- Riyaz-Ul-Hassan, S., V. Verma, A. Malik, and G. N. Qazi. 2003. Microbiological quality of walnut kernels and apple juice concentrate. *World J. Microbiol. Biotechnol.* 19:845–850.
- Van Doren, J. M., D. Kleinmeier, T. S. Hammack, and A. Westerman. 2013. Prevalence, serotype diversity, and antimicrobial resistance of *Salmonella* in imported shipments of spice offered for entry to the United States, FY2007–FY2009. *Food Microbiol.* 34:239–251.
- Van Doren, J. M., R. J. Blodgett, R. Pouillot, A. Westerman, D. Kleinmeier, G. C. Ziobro, Y. Ma, T. S. Hammack, V. Gill, M. F. Muckenfuss, and L. Fabbri. 2013. Prevalence, level and distribution of *Salmonella* in shipments of imported capsicum and sesame seed spice offered for entry to the United States: Observations and modeling results. *Food Microbiol.* 36:149–160.
- Vural, A., and M. E. Erkan. 2008. The research of microbiological quality in some edible nut kinds. *J. Food Technol.* 6(1):25–28. Available at: <http://docsdrive.com/pdfs/medwelljournals/jftech/2008/25-28.pdf>.
- Wehner, F. C., and C. J. Rabie. 1970. The micro-organisms in nuts and dried fruits. *Phytophylactica* 2:165–170.
- Willis, C., C. L. Little, S. Sagoo, E. de Pinna, and J. Threlfall. 2009. Assessment of the microbiological safety of edible dried seeds from retail premises in the United Kingdom with a focus on *Salmonella* spp. *Food Microbiol.* 26:847–852.
- Zhang, G., L. Hu, D. Melka, H. Wang, A. Laasri, E. W. Brown, E. Strain, M. Allard, V. K. Bunning, S. M. Musser, R. Johnson, S. M. Santillana Farakos, V. N. Scott, R. Pouillot, J. M. Van Doren, and T. S. Hammack. 2017. Prevalence of *Salmonella* in cashews, hazelnuts, macadamia nuts, pecans, pine nuts, and walnuts in the United States. *J. Food Prot.* 80:459–466. Available at: <http://www.jfoodprotection.org/doi/pdf/10.4315/0362-028X.JFP-16-396>.

NUT- OR SEED-SPECIFIC PUBLICATIONS

ALMOND

- Abd, S. J., K. L. McCarthy, and L. J. Harris. 2012. Impact of storage time and temperature on thermal inactivation of *Salmonella* Enteritidis PT 30 on oil-roasted almonds. *J. Food Sci.* 71:M42–M47. doi:10.1111/j.1750-3841.2011.02439.x
- Abdelnoor A. M., R. Batshoun, and B. M. Roumani. 1983. The bacterial flora of fruits and vegetables in Lebanon and the effect of washing on the bacterial content. *Zentralbl. Bakteriol. Mikrobiol. Hyg. B* 177:342–349.
- Almond Board of California. 2009. Good agricultural practices. Almond Board of California, Modesto, CA. Available at: <http://www.almonds.com/sites/default/files/gap-manual%5B1%5D.pdf>.
- Almond Board of California. 2010. Pathogen environmental monitoring (PEM). Preventing *Salmonella* recontamination: Pathogen environmental monitoring program guidance document. Almond Board of California, Modesto, CA. Available at: http://www.almonds.com/sites/default/files/content/attachments/pem_book.pdf.
- Almond Board of California. 2010. Pathogen environmental monitoring go-to-guide. Almond Board of California, Modesto, CA. Available at: http://www.almonds.com/sites/default/files/content/attachments/pem_go_to_guide_final1.pdf.
- Almond Board of California. 2014. Guidelines for using *Enterococcus faecium* NRRL B-2354 as a surrogate microorganism in almond process validation. Almond Board of California, Modesto, CA. Available at: <http://www.almonds.com/processors/processing-safe-product/pasteurization>.
- Ban, C., D. H. Lee, Y. Jo, H. Bae, H. Seong, S. O. Kim, S. Lim, and Y. J. Choi. 2018. Use of superheated steam to inactivate *Salmonella enterica* serovars Typhimurium and Enteritidis contamination on black peppercorns, pecans, and almonds. *J. Food Eng.* 222:284–291.
- Ban, G.-H., and D.-H. Kang. 2016. Effectiveness of superheated steam for inactivation of *Escherichia coli* O157:H7, *Salmonella* Typhimurium, *Salmonella* Enteritidis phage type 30, and *Listeria monocytogenes* on almonds and pistachios. *Int. J. Food Microbiol.* 220:19–25.
- Bansal, A., T. M. Jones, S. J. Abd, M. D. Danyluk, and L. J. Harris. 2010. Most-probable-number determination of *Salmonella* levels in naturally contaminated raw almonds using two sample preparation methods. *J. Food Prot.* 73:1986–1992.
- Bari, M. L., D. Nei, I. Sotome, I. Nishina, S. Isobe, and S. Kawamoto. 2009. Effectiveness of sanitizers, dry heat, hot water, and gas catalytic infrared heat treatments to inactivate *Salmonella* on almonds. *Foodborne Path. Dis.* 6:953–958.
- Bari, M. L., D. Nei, I. Sotome, I. Y. Nishina, F. Hayakawa, S. Isobe, and S. Kawamoto. 2010. Effectiveness of superheated steam and gas catalytic infrared heat treatments to inactivate *Salmonella* on raw almonds. *Foodborne Path. Dis.* 7:845–850.
- Beuchat, L. R. 1978. Relationship of water activity to moisture content in tree nuts. *J. Food Sci.* 43:754–755, 748.
- Bingol, G., J. Yang, M. T. Brandl, Z. Pan, H. Wang, and T. H. McHugh. 2011. Infrared pasteurization of raw almonds. *J. Food Eng.* 104:387–393.
- Blessington, T. E., C. G. Theofel, and L. J. Harris. 2013. A dry-inoculation method for nut kernels. *Food Microbiol.* 33:292–297. doi:10.1016/j.fm.2012.09.009
- Brandl, M. T., Z. Pan, S. Huynh, Y. Zhu, T. H. McHugh. 2008. Reduction of *Salmonella* Enteritidis population sizes on almond kernels with infrared heat. *J. Food Prot.* 71:897–902.

- California Department of Public Health. 2002. Environmental investigation of *Salmonella* Enteritidis Phage Type 30 outbreak associated with consumption of raw almonds. [Note: document fdb%20eru%20Almond%20SE%20Rpt%202001-2002 is no longer available online from CDPH.]
- California Department of Public Health. 2004. Environmental investigation of *Salmonella* Enteritidis Phage Type 9c outbreak associated with consumption of raw almonds. [Note: document fdb%20eru%20Almond%20SE2004 is no longer available online from CDPH.]
- Candlish, A. A. G., S. M. Pearson, K. E. Aidoo, J. E. Smith, B. Kelly, and H. Irvine. 2001. A survey of ethnic foods for microbial quality and aflatoxin content. *Food Addit. Contam.* 18:129–136.
- Centers for Disease Control and Prevention. 2004. Outbreak of *Salmonella* serotype Enteritidis infections associated with raw almonds—United States and Canada, 2003–2004. *MMWR Weekly* 53(22):484–487. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5322a8.htm>.
- Centers for Disease Control and Prevention. 2014. Multistate outbreak of *Salmonella* Braenderup infections linked to nut butter manufactured by nSpired Natural Foods, Inc. (final update). Available at: <http://www.cdc.gov/salmonella/braenderup-08-14/index.html>.
- Centers for Disease Control and Prevention. 2015. Multistate outbreak of *Salmonella* Paratyphi B variant L(+) tartrate(+) infections linked to JEM Raw brand sprouted nut butter spreads (final update). Available at: <http://www.cdc.gov/salmonella/paratyphi-b-12-15/index.html>.
- Chan, E. S., J. Aramini, B. Ciebin, D. Middleton, R. Ahmed, M. Howes, I. Brophy, I. Mentis, F. Jamieson, F. Rodgers, M. Nazarowec-White, S. C. Pichette, J. Farrar, M. Gutierrez, W. J. Weis, L. Lior, A. Ellis, and S. Isaacs. 2002. Natural or raw almonds and an outbreak of a rare phage type of *Salmonella* Enteritidis infection. *Can. Commun. Dis. Rept.* 28:97–99. Available at: <http://www.collectionscanada.gc.ca/webarchives/20071220082522/http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02pdf/cdr2812.pdf>.
- Chang, S.-S., A. R. Han, J. I. Reyes-De-Corcuera, J. R. Powers, and D.-H. Kang. 2010. Evaluation of steam pasteurization in controlling *Salmonella* serotype Enteritidis on raw almond surfaces. *Lett. Appl. Microbiol.* 50:393–398. Available at: <http://dx.doi.org/10.1111/j.1472-765X.2010.02809.x>.
- Cheng, T., R. Li, X. Kou, and S. Wang. 2017. Influence of controlled atmosphere on thermal inactivation of *Escherichia coli* ATCC 25922 in almond powder. *Food Microbiol.* 64:186–194.
- Cheng, T., and S. Wang. 2018. Influence of storage temperature/time and atmosphere on survival and thermal inactivation of *Escherichia coli* ATCC 25922 inoculated to almond powder. *Food Control* 86:350–358.
- Cuervo, M. P., L. M. Lucia, and A. Castillo. 2016. Efficacy of traditional almond decontamination treatments and electron beam irradiation against heat-resistant *Salmonella* strains. *J. Food Prot.* 79:369–375.
- Danyluk, M. D., M. T. Brandl, and L. J. Harris. 2008. Migration of *Salmonella* Enteritidis phage type 30 through almond hulls and shells. *J. Food Prot.* 71:397–401.
- Danyluk, M. D., L. J. Harris, and D. W. Schaffner. 2006. Monte Carlo simulations assessing the risk of salmonellosis from consumption of almonds. *J. Food Prot.* 69:1594–1599.

- Danyluk, M. D., T. M. Jones, S. J. Abd, F. Schlitt-Dittrich, M. Jacobs, and L. J. Harris. 2007. Prevalence and amounts of *Salmonella* found on raw California almonds. *J. Food Prot.* 70:820–827.
- Danyluk, M. D., M. Nozawa-Inoue, K. R. Hristova, K. M. Scow, B. Lampinen and L. J. Harris. 2008. Survival and growth of *Salmonella* Enteritidis PT 30 in almond orchard soils. *J. Appl. Microbiol.* 104:1391–1399. Available at: <http://dx.doi.org/10.1111/j.1365-2672.2007.03662.x>.
- Danyluk, M. D., A. R. Uesugi, and L. J. Harris. 2005. Survival of *Salmonella* Enteritidis PT 30 on inoculated almonds after commercial fumigation with propylene oxide. *J. Food Prot.* 68:1613–1622.
- Deering, A. J., L. J. Mauer, and R. E. Pruitt. 2012. Internalization of *E. coli* O157:H7 and *Salmonella* spp. in plants: A review. *Food Res. Int.* 45:567–575.
- Deng, S., R. Ruan, C. K. Mok, G. Huang, X. Lin, and P. Chen. 2007. Inactivation of *Escherichia coli* on almonds using nonthermal plasma. *J. Food Sci.* 72(2):M62–M66.
- Du, W.-X., S. J. Abd, K. L. McCarthy, and L. J. Harris. 2010. Reduction of *Salmonella* on inoculated almonds exposed to hot oil. *J. Food Prot.* 73:1238–1246.
- Du, W.-X., M. D. Danyluk, and L. J. Harris. 2007. Evaluation of cleaning treatments for almond-contact surfaces in hulling and shelling facilities. *Food Prot. Trends* 27:678–683.
- Du, W.-X., M. D. Danyluk, and L. J. Harris. 2010. Efficacy of aqueous and alcohol-based quaternary ammonium sanitizers for reducing *Salmonella* in dusts generated in almond hulling and shelling facilities. *J. Food Sci.* 75(1):M7–M13. doi:10.1111/j.1750-3841.2009.01393.x
- Duong, C., and D. Foley. 2006. The effect of electron beam radiation on raw almonds contaminated with different *Salmonella* strains. In: Abstracts of the 106th General Meeting of the American Society for Microbiology, Orlando, FL, 21–25 May 2006.
- Eglezos, S. 2010. The bacteriological quality of retail-level peanut, almond, cashew, hazelnut, Brazil, and mixed nut kernels produced in two Australian nut-processing facilities over a period of 3 years. *Foodborne Pathog. Dis.* 7:863–866.
- Eglezos, S., B. Huang, and E. Stuttard. 2008. A survey of the bacteriological quality of pre roasted peanut, almond, cashew, hazelnut and Brazil nut kernels received into three Australian nut-processing facilities over a period of 3 years. *J. Food Prot.* 71:402–404.
- Federal Register. 2007. Almonds grown in California; outgoing quality control requirements. 7 CFR part 981. *Fed. Reg.* 72:15021–15036. Available at: <http://www.gpoaccess.gov/fr/retrieve.html>.
- Food Standards Australia New Zealand. 2012. Warning and advice on raw almonds and possible *Salmonella* contamination. Available at: <http://www.foodstandards.gov.au/media/pages/mediareleases/mediareleases2012/23october2012warning5699.aspx>.
- Gao, M., J. Tang, R. Villa-Rojas, Y. Wang, and S. Wang. 2011. Pasteurization process development for controlling *Salmonella* in in-shell almonds using radio frequency energy. *J. Food Eng.* 104:299–306.
- Garces-Vega, F., S. Jeong, K. Dolan, and B. Marks. 2016. Modeling *Salmonella* inactivation in low moisture foods: using parameter estimation to improve model performance. *Procedia Food Science* 7:41–46.
- Garcés-Vega, F. J. 2017. Quantifying water effects on thermal inactivation of *Salmonella* in low-moisture foods. Ph.D. dissertation. Michigan State University, East Lansing.

- Gerner-Smith, P., and J. M. Whichard. 2008. Foodborne disease trends and reports. *Foodborne Pathog. Dis.* 5:3–5.
- Goodridge, L. D., J. Willford, and N. Kalchayanand. 2006. Destruction of *Salmonella* Enteritidis inoculated onto raw almonds by high hydrostatic pressure. *Food Res. Int.* 39:408–412.
- Ha, J.-W., and D.-H. Kang. 2015. Combining lactic acid spray with NIR radiant heating to inactivate *Salmonella enterica* serovar Enteritidis on almond and pine nut kernels. *Appl. Environ. Microbiol.* 81:4517–4524. Available at: <http://dx.doi.org/10.1128/AEM.00943-15>.
- Harris, L. J., and L. Ferguson. 2013. Improving the safety of almonds and pistachios, p. 350–378. In L. J. Harris (ed.), *Improving the safety and quality of nuts*. Woodhead Publishing Ltd., Cambridge.
- Harris, L. J., A. R. Uesugi, S. J. Abd, and K. L. McCarthy. 2012. Survival of *Salmonella* Enteritidis PT 30 on inoculated almond kernels in hot water treatments. *Food Res. Int.* 45:1093–1098. doi:10.1016/j.foodres.2011.03.048
- Hertwig, C., A. Leslie, N. Meneses, K. Reineke, C. Rauh, and O. Schlüter. 2017. Inactivation of *Salmonella* Enteritidis PT30 on the surface of unpeeled almonds by cold plasma. *Innov. Food Sci. Emerg. Technol.* 44:242–248.
- Hokunan, H., K. Koyama, M. Hasegawa, S. Kawamura, and S. Koseki. 2016. Survival kinetics of *Salmonella enterica* and enterohemorrhagic *Escherichia coli* on a plastic surface at low relative humidity and on low-water activity foods. *J. Food Prot.* 79:1680–1692. [almond kernels]
- Ijabadeniyi, O. A., and Y. Pillay. 2017. Microbial safety of low water activity foods: study of simulated and Durban household samples. *J. Food Quality* 2017:ID4931521. Available at: <https://doi.org/10.1155/2017/4931521>. [almond and macadamia butters]
- Isaacs, S., J. Aramini, B. Ciebin, J. A. Farrar, R. Ahmed, D. Middleton, A. U. Chandran, L. J. Harris, M. Howes, E. Chan, A. S. Pichette, K. Campbell, A. Gupta, L. Y. Lior, M. Pearce, C. Clark, F. Rodgers, F. Jamieson, I. Brophy, and A. Ellis. 2005. An international outbreak of salmonellosis associated with raw almonds contaminated with a rare phage type of *Salmonella* Enteritidis. *J. Food Prot.* 68:191–198.
- Jeong, S.-G., O.-D. Baik, and D.-H. Kang. 2017. Evaluation of radio-frequency heating in controlling *Salmonella enterica* in raw shelled almonds. *Int. J. Food Microbiol.* 254:54–61.
- Jeong, S., B. P. Marks, and M. K. James. 2017. Comparing thermal process validation methods for *Salmonella* inactivation on almond kernels. *J. Food Prot.* 80:169–176.
- Jeong, S., B. P. Marks, and A. Orta-Ramirez. 2009. Thermal inactivation kinetics for *Salmonella* Enteritidis PT30 on almonds subjected to moist-air convection heating. *J. Food Prot.* 72:1602–1609.
- Jeong, S., B. P. Marks, and E. T. Ryser. 2011. Quantifying the performance of *Pediococcus* sp. (NRRL B-2354 *Enterococcus faecium*) as a nonpathogenic surrogate for *Salmonella* Enteritidis PT30 during moist-air convection heating of almonds. *J. Food Prot.* 74:603–609.
- Jeong, S., B. P. Marks, E. T. Ryser, and J. B. Harte. 2012. The effect of X-ray irradiation on *Salmonella* inactivation and sensory quality of almonds and walnuts as a function of water activity. *Int. J. Food Microbiol.* 153:365–371. Available at: <http://dx.doi.org/10.1016/j.ijfoodmicro.2011.11.028>
- Keady, S., G. Briggs, J. Farrar, J. C. Mohle-Boetani, J. O’Connell, S. B. Werner, D. Anderson, L. Tenglesen, S. Bidols, B. Albanese, C. Gordan, E. Debess, J. Hatch, W. E. Keene, M. Plantenga, J. Tierheimer, A. L. Hackman, C. E. Rinehardt, C. H. Sandt, A. Ingram, S. Hansen, S. Hurt, M. Poulson, R. Pallipamu, J. Wicklund, C. Braden, J. Lockett, S. Van

- Duyne, A. Dechet, and C. Smesler. 2004. Outbreak of *Salmonella* serotype Enteritidis infections associated with raw almonds— United States and Canada, 2003–2004. *MMWR Weekly* 53(22):484–487. [same as: Centers for Disease Control and Prevention, 2004]
- Kimber, M. A., H. Kaur, L. Wang, M. D. Danyluk, and L. J. Harris. 2012. Survival of *Salmonella*, *Escherichia coli* O157:H7, and *Listeria monocytogenes* on inoculated almonds and pistachios stored at –19, 4, and 24°C. *J. Food Prot.* 75:1394–1403. doi:10.4315/0362-028X.JFP-12-023
- King, A. D., Jr., W. U. Halbrook, G. Fuller, and L. C. Whitehand. 1983. Almond nutmeat moisture and water activity and its influence on fungal flora and seed composition. *J. Food Sci.* 48:615–617.
- King, A. D., Jr., M. J. Miller, and L. C. Eldridge. 1970. Almond harvesting, processing, and microbial flora. *Appl. Microbiol.* 20:208–214. Available at: <http://aem.asm.org/content/20/2/208.full.pdf+html>.
- King, A. D., Jr., and J. E. Schade. 1986. Influence of almond harvest, processing and storage on fungal populations and flora. *J. Food Sci.* 51:202–205.
- Kokal, D. 1969. Evaluation of a washing procedure in the examination of almonds for *Escherichia coli*. *Appl. Microbiol.* 17:897–898. Available at: <http://aem.asm.org/content/17/6/897.full.pdf+html>.
- Kokal, D., and D. W. Thorpe. 1969. Occurrence of *Escherichia coli* in almonds of Nonpareil variety. *Food Technol.* 23:227–232. [or *Food Technol.* February:93–98]
- Komitopoulou, E., and W. Peñaloza. 2009. Fate of *Salmonella* in dry confectionery raw materials. *J. Appl. Microbiol.* 106:1892–1900. Available at: <http://dx.doi.org/10.1111/j.1365-2672.2009.04144.x>.
- Kopit, L. M., E. B. Kim, R. J. Siezen, L. J. Harris, and M. L. Marco. 2014. Safety of the surrogate microorganism *Enterococcus faecium* NRRL B-2354 for use in thermal process validation. *Appl. Environ. Microbiol.* 80(6):1899–1909. Available at: <http://dx.doi.org/10.1128/AEM.03859-13>.
- Lacombe, A., B. A. Niemira, J. Sites, G. Boyd, J. B. Gurtler, B. Tyrell, and M. Fleck. 2016. Reduction of bacterial pathogens and potential surrogates on the surface of almonds using high-intensity 405-nanometer light. *J. Food Prot.* 79:1840–1845.
- Lambertini, E., M. D. Danyluk, D. W. Schaffner, C. K. Winter, and L. J. Harris. 2012. Risk of salmonellosis from consumption of almonds in the North American market. *Food Res. Int.* 45:1166–1174. doi:10.1016/j.foodres.2011.05.039
- Ledet Müller, L., M. Hjertqvist, L. Payne, H. Pettersson, A. Olsson, L. Plym Forshell, and Y. Andersson. 2007. Cluster of *Salmonella* Enteritidis in Sweden 2005-2006 – suspected source: almonds. *Eurosurveillance* 12(6), 1 June:718. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=718>.
- Lee, S.-Y., S.-W. Oh, H.-J. Chung, J. I. Reyes-de-Corcuera, J. R. Powers, and D.-H. Kang. 2006. Reduction of *Salmonella enterica* serovar Enteritidis on the surface of raw shelled almonds by exposure to steam. *J. Food Prot.* 69:591–595.
- Li, R., X. Kou, and S. Wang. 2016. Developing radio frequency treatments to control surrogate microorganism *Escherichia coli* ATCC 25922 in in-shell almonds, (Abstract 162455958). 2016 ASABE Annual International Meeting, American Society of Agricultural and Biological Engineers, July 17–20, Orlando, FL.

- Li, R., S. Zhang, X. Kou, B. Ling, and S. Wang. 2017. Dielectric properties of almond kernels associated with radio frequency and microwave pasteurization. *Scientific Reports* 7:42452. Available at: <https://www.nature.com/articles/srep42452>.
- Li, Y., and K. R. Schneider. 2016. Microbiological hazard outbreaks in nuts and nuts-related food, p. 63–77. In J. M. Soon, L. Manning, and C. A. Wallace (ed.), *Foodborne diseases: Case studies of outbreaks in the agri-food industries*, CRC Press, Boca Raton, FL.
- Lima, J. R., L. M. Bruno, and M. de F. Borges. 2006. An evaluation of the physiochemical, microbiological and organoleptic quality of almond, hazelnut and cashew nut paste sold in Fortaleza in Ceara State. *Higiene Alimentar*. 20:51–54.
- Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.
- Little, C. L., N. Rawal, E. de Pinna, and J. McLauchlin. 2010. Survey of *Salmonella* contamination of edible nut kernels on retail sale in the UK. *Food Microbiol.* 27:171–174.
- Mandalari, G., C. Bisignano, M. D'Arrigo, G. Ginestra, A. Arena, A. Tomaino, and M. S. J. Wickham. 2010. Antimicrobial potential of polyphenols extracted from almond skins. *Lett. Appl. Microbiol.* 51:83–89. Available at: <http://dx.doi.org/10.1111/j.1472-765X.2010.02862.x>.
- McGarvey, J. A., J. H. Connell, L. H. Stanker, and R. Hnasko. 2014. Bacterial population structure and dynamics during the development of almond drupes. *J. Appl. Microbiol.* 116:1543–1552.
- Niemira, B. A. 2012. Cold plasma reduction of *Salmonella* and *Escherichia coli* O157:H7 on almonds using ambient pressure gases. *J. Food Sci.* 77(3):M171–M175.
- Ostrolenk, M., and A. C. Hunter. 1939. Bacteria of the colon-aerogenes group on nut meats. *Food Research (J. Food Sci.)* 4:453–460.
- Pan, Z., G. Bingol, M. T. Brandl, and T. H. McHugh. 2012. Review of current technologies for reduction of *Salmonella* populations on almonds. *Food Bioprocess Technol.* 5:2046–2057.
- Pao, S., A. Kalantari, and G. Huang. 2006. Utilizing acidic sprays for eliminating *Salmonella enterica* on raw almonds. *J. Food Sci.* 71:M14–M19.
- Parker, C. T., S. Huynh, B. Quiñones, L. J. Harris, and R. E. Mandrell. 2010. Comparison of genotypes of *Salmonella enterica* serovar Enteritidis phage type 30 and 9c strains isolated during three outbreaks associated with raw almonds. *Appl. Environ. Microbiol.* 76:3723–3731. Available at: <http://aem.asm.org/content/76/11/3723.full.pdf+html>.
- Prakash, A., F. T. Lim, C. Duong, F. Caporaso, and D. Foley. 2010. The effects of ionizing irradiation on *Salmonella* inoculated on almonds and changes in sensory properties. *Radiat. Phys. Chem.* 79:502–506.
- Salazar, F., S. Garcia, M. Lagunas-Solar, Z. Pan, and J. Cullor. 2017. Efficacy of a heat-spray and heat-double spray process on inoculated nuts with *Salmonella enteritidis* ATCC 1045. *Food Control* 81:74–79. [almonds, pecans, pistachios, walnuts]
- Sanchez-Bel, P., I. Egea, F. Romojaro, and M. C. Martinez-Madrid. 2008. Sensorial and chemical quality of electron beam irradiated almonds (*Prunus amygdalus*). *LWT-Food Sci. Technol.* 41:442–449.
- Santillana Farakos, S. M., R. Pouillot, R. Johnson, J. Spungen, I. Son, N. Anderson, and J. M. Van Doren. 2017. A quantitative assessment of the risk of human salmonellosis arising from the consumption of almonds in the United States: the impact of preventive treatment levels.

- J. Food Prot.* 80:863–878. Available at: <http://jfoodprotection.org/doi/pdf/10.4315/0362-028X.JFP-16-403>.
- Schade, J. E., and A. D. King, Jr. 1977. Methyl bromide as a microbicidal fumigant for tree nuts. *Appl. Environ. Microbiol.* 33:1184–1191. Available at: <http://aem.asm.org/content/33/5/1184.full.pdf+html>.
- Tsai, H.-C., L. Sheng, and M.-J. Zhu. 2017. Antimicrobial efficacy of cinnamon oil against *Salmonella* in almond based matrices. *Food Control* 80:170–175.
- Uesugi, A. R., M. D. Danyluk, and L. J. Harris. 2006. Survival of *Salmonella* Enteritidis phage type 30 on inoculated almonds at –20, 4, 23 and 35°C. *J. Food Prot.* 69:1851–1857.
- Uesugi, A. R., M. D. Danyluk, R. E. Mandrell, and L. J. Harris. 2007. Isolation of *Salmonella* Enteritidis phage type 30 from a single almond orchard over a 5-year period. *J. Food Prot.* 70:1784–1789.
- Uesugi, A. R., and L. J. Harris. 2006. Growth of *Salmonella* Enteritidis phage type 30 in almond hull and shell slurries and survival in drying almond hulls. *J. Food Prot.* 69:712–718.
- Villa-Rojas, R., J. Tang, S. Wang, M. Gao, D.-H. Kang, J.-H. Mah, P. Gray, M. E. Sosa-Morales, and A. López-Malo. 2013. Thermal inactivation of *Salmonella* Enteritidis PT 30 in almond kernels as influenced by water activity. *J. Food Prot.* 76:26–32.
- Wehner, F. C., and C. J. Rabie. 1970. The micro-organisms in nuts and dried fruits. *Phytophylactica* 2:165–170.
- Wihodo, M., Y. Han, T. L. Selby, P. Lorcheim, M. Czarneski, G. Huang, and R. H. Linton. 2005. Decontamination of raw almonds using chlorine dioxide gas, (Abstract 99E-12). Institute of Food Technologists Annual Meeting 2005, New Orleans, LA, July 15–20.
- Willford, J., A. Mendonca, and L. D. Goodridge. 2008. Water pressure effectively reduces *Salmonella enterica* serovar Enteritidis on the surface of raw almonds. *J. Food Prot.* 71:825–829.
- Wright, D. G., J. Minarsich, M. A. Daeschel, and J. Waite-Cusic. 2017. Thermal inactivation of *Salmonella* spp. in commercial tree nut and peanut butters in finished packaging. *Journal of Food Safety*, in press (online 2 July 2017). [almond, almond+ cashew, hazelnut, peanut]
- Yang, J., G. Bingol, Z. Pan, M. T. Brandl, T. H. McHugh, and H. Wang. 2010. Infrared heating for dry-roasting and pasteurization of almonds. *J. Food Eng.* 101:273–280.

BRAZIL NUT

- Arrus, K., G. Blank, R. Clear, R. A. Holley, and D. Abramson. 2005. Microbiological and aflatoxin evaluation of Brazil nut pods and the effects of unit processing operations. *J. Food Prot.* 68:1060–1065.
- Beuchat, L. R. 1978. Relationship of water activity to moisture content in tree nuts. *J. Food Sci.* 43:754–755, 748.
- Candlish, A. A. G., S. M. Pearson, K. E. Aidoo, J. E. Smith, B. Kelly, and H. Irvine. 2001. A survey of ethnic foods for microbial quality and aflatoxin content. *Food Addit. Contam.* 18:129–136.
- da Silva, A. C., H. J. Sarturi, E. L. Dall'Oglio, M. A. Soares, P. T. de Sousa, L. G. de Vasconcelos, and C. A. Kuhnen. 2016. Microwave drying and disinfestation of Brazil nut seeds. *Food Control* 70:119–129. Available at: <https://doi.org/10.1016/j.foodcont.2016.04.049>.

- Eglezos, S. 2010. The bacteriological quality of retail-level peanut, almond, cashew, hazelnut, Brazil, and mixed nut kernels produced in two Australian nut-processing facilities over a period of 3 years. *Foodborne Pathog. Dis.* 7:863–866.
- Eglezos, S., B. Huang, and E. Stuttard. 2008. A survey of the bacteriological quality of pre roasted peanut, almond, cashew, hazelnut and Brazil nut kernels received into three Australian nut-processing facilities over a period of 3 years. *J. Food Prot.* 71:402–404.
- Fishbein, M., and B. F. Surkiewicz. 1964. Comparison of the recovery of *Escherichia coli* from frozen foods and nutmeats by confirmatory incubation in EC medium at 44.5 and 45.5 C. *Appl. Microbiol.* 12:127–131. Available at: <http://aem.asm.org/content/12/2/127.full.pdf+html>.
- Freire, F. C. O., Z. Kozakiewicz, and R. R. M. Paterson. 2000. Mycoflora and mycotoxins in Brazilian black pepper, white pepper and Brazil nuts. *Mycopathologia* 149:13–19.
- Freire, F. C. O., and L. Offord. 2002. Bacterial and yeast counts in Brazilian commodities and spices. *Brazilian J. Microbiol.* 33:145–148. Available at: <http://dx.doi.org/10.1590/S1517-83822002000200009>.
- Harker, K. S., C. Lane, F. J. Gormley, and G. K. Adak. 2013. National outbreaks of *Salmonella* infection in the UK, 2000–2011. *Epidemiol. Infect.* 142(3):601–607. [re: chocolate-coated Brazil nuts]
- Lima, A. M., E. C. Gonçalves, S. S. Andrade, M. S. R. Barbosa, K. F. P. Barroso, M. B. de Sousa, L. Borges, J. L. F. Vieira, and F. M. Teixeira. 2013. Critical points of Brazil nuts: a beginning for food safety, quality control and Amazon sustainability. *J. Sci. Food Agric.* 93:735–740.
- Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.
- Little, C. L., N. Rawal, E. de Pinna, and J. McLaughlin. 2010. Survey of *Salmonella* contamination of edible nut kernels on retail sale in the UK. *Food Microbiol.* 27:171–174.
- Ostrolenk, M., and A. C. Hunter. 1939. Bacteria of the colon-aerogenes group on nut meats. *Food Research (J. Food Sci.)* 4:453–460.

CASHEW

- Beuchat, L. R. 1978. Relationship of water activity to moisture content in tree nuts. *J. Food Sci.* 43:754–755, 748.
- Candlish, A. A. G., S. M. Pearson, K. E. Aidoo, J. E. Smith, B. Kelly, and H. Irvine. 2001. A survey of ethnic foods for microbial quality and aflatoxin content. *Food Addit. Contam.* 18:129–136.
- Centers for Disease Control and Prevention. 2014. Multistate outbreak of *Salmonella* Stanley infections linked to raw cashew cheese (final update). Available at: <http://www.cdc.gov/salmonella/stanley-01-14/index.html>.
- Centers for Disease Control and Prevention. 2015. Multistate outbreak of *Salmonella* Paratyphi B variant L(+) tartrate(+) infections linked to JEM Raw brand sprouted nut butter spreads (final update). Available at: <http://www.cdc.gov/salmonella/paratyphi-b-12-15/index.html>.
- EFSA Panel on Biological Hazards. 2013. Scientific Opinion on the risk posed by pathogens in food of non-animal origin. Part 1 (outbreak data analysis and risk ranking of food/pathogen combinations). *EFSA Journal* 11(1):3025. [138 pp] Available at: <http://dx.doi.org/10.2903/j.efsa.2013.3025>.

- Eglezos, S. 2010. The bacteriological quality of retail-level peanut, almond, cashew, hazelnut, Brazil, and mixed nut kernels produced in two Australian nut-processing facilities over a period of 3 years. *Foodborne Pathog. Dis.* 7:863–866.
- Eglezos, S., B. Huang, and E. Stuttard. 2008. A survey of the bacteriological quality of pre roasted peanut, almond, cashew, hazelnut and Brazil nut kernels received into three Australian nut-processing facilities over a period of 3 years. *J. Food Prot.* 71:402–404.
- Freire, F. C. O., and Z. Kozakiewicz. 2005. Filamentous fungi, bacteria and yeasts associated with cashew kernels in Brazil. *Revista Ciência Agronômica* 36: 249–254.
- Freire, F. C. O., Z. Kozakiewicz, and R. R. M. Paterson. 1999. Mycoflora and mycotoxins of Brazilian cashew kernels. *Mycopathologia* 145:95–103.
- Freire, F. C. O., and L. Offord. 2002. Bacterial and yeast counts in Brazilian commodities and spices. *Brazilian J. Microbiol.* 33:145–148.
- Krishnaswamy, M. A., N. Parthasarathy, J. D. Patel, and K. K. S. Nair. 1973. Further studies on microbiological quality of cashew nut (*Anacardium occidentale*). *J. Food Sci. Technol.* 10:24–26.
- Lima, J. R., L. M. Bruno, and M. de F. Borges. 2006. An evaluation of the physiochemical, microbiological and organoleptic quality of almond, hazelnut and cashew nut paste sold in Fortaleza in Ceara State. *Higiene Alimentar.* 20:51–54.
- Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.
- Little, C. L., N. Rawal, E. de Pinna, and J. McLauchlin. 2010. Survey of *Salmonella* contamination of edible nut kernels on retail sale in the UK. *Food Microbiol.* 27:171–174.
- Oluwafemi, F., U. Ewelukwa, and G. Okuwa. 2009. Outbreak of *E. coli* O157:H7 infections associated with ready-to eat cashew nuts in a Nigerian university community. *African J. Biomed. Research* 12(2):113–119. Available at: <http://www.ajol.info/index.php/ajbr/article/view/95148/84497>.
- Ostrolenk, M., and A. C. Hunter. 1939. Bacteria of the colon-aerogenes group on nut meats. *Food Research (J. Food Sci.)* 4:453–460.
- OzFoodNet Working Group. 2010. OzFoodNet quarterly report, 1 April to 30 June 2010. *Commun. Dis. Intell.* 34(3):345–354. Available at: <http://www.health.gov.au/cdi>.
- Pitt, J. I., A. D. Hocking, K. Bhudhasamia, B. F. Miscamble, K. A. Wheeler, and P. Tanboon-Ek. 1993. The normal mycoflora of commodities from Thailand. 1. Nuts and oilseeds. *Int. J. Food Microbiol.* 20:211–226.
- Wehner, F. C., and C. J. Rabie. 1970. The micro-organisms in nuts and dried fruits. *Phytophylactica* 2:165–170.
- Whitworth, J. 2014. *Salmonella* from cashews sickens 14. *Food Quality News*, January 6. Available at: <http://www.foodqualitynews.com/Food-Alerts/Salmonella-from-cashews-sickens-14>.
- Wright, D. G., J. Minarsich, M. A. Daeschel, and J. Waite-Cusic. 2017. Thermal inactivation of *Salmonella* spp. in commercial tree nut and peanut butters in finished packaging. *Journal of Food Safety*, in press (online 2 July 2017). [almond, almond+ cashew, hazelnut, peanut]
- Zhang, G., L. Hu, D. Melka, H. Wang, A. Laasri, E. W. Brown, E. Strain, M. Allard, V. K. Bunning, S. M. Musser, R. Johnson, S. M. Santillana Farakos, V. N. Scott, R. Pouillot, J. M. Van Doren, and T. S. Hammack. 2017. Prevalence of *Salmonella* in cashews, hazelnuts,

macadamia nuts, pecans, pine nuts, and walnuts in the United States. *J. Food Prot.* 80:459–466. Available at: <http://www.jfoodprotection.org/doi/pdf/10.4315/0362-028X.JFP-16-396>.

CHESTNUT

Beuchat, L. R. 1978. Relationship of water activity to moisture content in tree nuts. *J. Food Sci.* 43:754–755, 748.

COCONUT

- Anderson, E. S. 1960. The occurrence of *Salmonella paratyphi* B in desiccated coconut from Ceylon. *Monthly Bull. Ministry Health Public Health Lab. Service* 19:172–175.
- Awua, A. K., E. D. Doe, and R. Agyare. 2012. Potential bacterial health risk posed to consumers of fresh coconut (*Cocos nucifera* L.) water. *Food Nutr. Sci.* 3:1136–1143. Available at: <http://dx.doi.org/10.4236/fns.2012.38149>.
- Centers for Disease Control and Prevention. 1991. Cholera associated with imported frozen coconut milk—Maryland, 1991. *MMWR Weekly* 40(49):844–845. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/00015726.htm>.
- Daniels-Bosman, M. S., and J. Huisman. 1961. Salmonellae in desiccated coconut and coco-products. *Trop. Geogr. Med.* 13:281–283.
- Fernandez, W. L. 1988. Microbial examination of mature coconut fruit. *Philippine Agriculturist* 71:13–20.
- Galbraith, N. S., B. C. Hobbs, M. E. Smith, A. J. H. Tomlinson. 1960. Salmonellae in desiccated coconut. An interim report. *Mon. Bull. Min. Health Lab. Serv.* 19:99–106.
- Ghosh, M., S. Wahi, M. Kumar, and A. Ganguli. 2007. Prevalence of enterotoxigenic *Staphylococcus aureus* and *Shigella* spp. in some raw street vended Indian foods. *Int. J. Environ. Health Res.* 17(2):151–156. [coconut slices, likely contaminated during preparation]
- Hammack, T. S., R. M. Amaguaña, G. A. June, P. S. Sherrod, and W. H. Andrews. 1999. Relative effectiveness of selenite cystine broth, tetrathionate broth, and Rappaport-Vassiliadis medium for the recovery of *Salmonella* spp. from foods with a low microbial load. *J. Food Prot.* 62:16–21.
- Iveson, J. B., N. Kovacs, and W. Laurie. 1964. An improved method of isolating salmonellae from contaminated desiccated coconut. *J. Clin. Pathol.* 17:75–78. Available at: <http://jcp.bmj.com/content/17/1/75.full.pdf+html>.
- Kajs, T. M., R. Hagenmaier, C. Vanderzant, and K. F. Mattil. 1976. Microbiological evaluation of coconut and coconut products. *J. Food Sci.* 41:352–356.
- Kovacs, N. 1959. Salmonellae in desiccated coconut, egg pulp, fertilizer, meat-meal and mesenteric glands: preliminary report. *Med. J. Aust.* 46(17):557–559.
- Li, Y., and K. R. Schneider. 2016. Microbiological hazard outbreaks in nuts and nuts-related food, p. 63–77. In J. M. Soon, L. Manning, and C. A. Wallace (ed.), *Foodborne diseases: Case studies of outbreaks in the agri-food industries*, CRC Press, Boca Raton, FL.
- Meedeniya, K. 1969. Investigations into the contamination of Ceylon desiccated coconut. *J. Hygiene* 67:719–729.
- Schaffner, C. P., K. Mosbach, V. C. Bibit, and C. H. Watson. 1967. Coconut and *Salmonella* infection. *Appl. Microbiol.* 15:471–475. Available at: <http://aem.asm.org/content/15/3/471.full.pdf+html>.
- Seiler, D. A. 1960. The effect of time and temperature on the survival of salmonellae in desiccated coconut. *Monthly Bull. Ministry Health Public Health Lab. Service* 19:211–212.

- Semple, A. B., W. H. Parry, and A. J. Graham. 1961. Paratyphoid fever traced to desiccated coconut. *Lancet* 278(7198):364–365.
- Sinigaglia, M., A. Bevilacqua, D. Campaniello, D. D’Amato, and M. R. Corbo. 2006. Growth of *Listeria monocytogenes* in fresh-cut coconut as affected by storage conditions and inoculum size. *J. Food Prot.* 69:820–825.
- Strawn, L. K., K. R. Schneider, and M. D. Danyluk. 2011. Microbial safety of tropical fruits. *Crit. Rev. Food Sci. Nutr.* 51:132–145.
- Taylor, J. L., J. Tuttle, T. Pramukul, K. O’Brien, T. J. Barrett, B. Jolbitado, Y. L. Lim, D. Vugia, J. G. Morris, R. V. Tauxe, and D. M. Dwyer. 1993. An outbreak of cholera in Maryland associated with imported commercial frozen fresh coconut milk. *J. Infect. Dis.* 167:1330–1335. Available at: <http://dx.doi.org/10.1093/infdis/167.6.1330>.
- Teoh, Y. L., K. T. Goh, K. S. Neo, and M. Yeo. 1997. A nationwide outbreak of coconut-associated paratyphoid A fever in Singapore. *Ann. Acad. Med. Singapore* 26:544–548.
- Velaudapillai, T., K. Nitiananda, and K. Meedeniya. 1963. *Salmonella* in desiccated coconut. *Zeitschrift für Hygiene* 149:122–125.
- Walter, E. H. M., D. Y. Kabuki, L. M. R. Esper, A. S. Sant’Ana, and A. Y. Kuaye. 2009. Modeling the growth of *Listeria monocytogenes* in fresh green coconut (*Cocos nucifera* L.) water. *Food Microbiol.* 26:653–657.
- Walter, E. H. M., M. S. Nascimento, and A. Y. Kuaye. 2009. Efficacy of sodium hypochlorite and peracetic acid in sanitizing green coconuts. *Lett. Appl. Microbiol.* 49:366–371. Available at: <http://dx.doi.org/10.1111/j.1472-765X.2009.02670.x>.
- Ward, L., S. Brusin, G. Duckworth, and S. O’Brien. 1999. *Salmonella* java phage type Dundee—rise in cases in England: update. *Eurosurveillance* 3(12), 18 March:1435. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1435>.
- Wilson, M. M., and E. F. MacKenzie. 1955. Typhoid fever and salmonellosis due to the consumption of infected desiccated coconut. *J. Appl. Bacteriol.* 18:510–521.

HAZELNUT (FILBERT)

- Amarowicz, R., G. A. Dykes, and R. B. Pegg. 2008. Antibacterial activity of tannin constituents from *Phaseolus vulgaris*, *Fagopyrum esculentum*, *Corylus avellana* and *Juglans nigra*. *Fitoterapia* 79(3):217–219.
- Beach, C. 2017. *Salmonella* outbreak traced to hazelnuts from Oregon farm. *Food Safety News*, 7 January. Available at: <http://www.foodsafetynews.com/2017/01/salmonella-outbreak-traced-to-hazelnuts-from-oregon-farm/#.WHFV2VMrKpr>.
- Beuchat, L. R. 1978. Relationship of water activity to moisture content in tree nuts. *J. Food Sci.* 43:754–755, 748.
- California Department of Public Health. 2013. Environmental investigation of the *Escherichia coli* O157:H7 outbreak in Minnesota, Michigan, Wisconsin, and Canada associated with hazelnuts – January 2011. [Note: document fdbEIRDF2011 is no longer available online from CDPH.]
- Candlish A. A. G., S. M. Pearson, K. E. Aidoo, J. E. Smith, B. Kelly, and H. Irvine. 2001. A survey of ethnic foods for microbial quality and aflatoxin content. *Food Addit. Contam.* 18:129–136.
- Centers for Disease Control and Prevention. 2011. Investigation update: multistate outbreak of *E. coli* O157:H7 infections associated with in-shell hazelnuts (final update). Available at: <http://www.cdc.gov/ecoli/2011/hazelnuts0157/index.html>.

- Centers for Disease Control and Prevention. 2015. Multistate outbreak of *Salmonella* Paratyphi B variant L(+) tartrate(+) infections linked to JEM Raw brand sprouted nut butter spreads (final update). Available at: <http://www.cdc.gov/salmonella/paratyphi-b-12-15/index.html>.
- Eglezos, S. 2010. The bacteriological quality of retail-level peanut, almond, cashew, hazelnut, Brazil, and mixed nut kernels produced in two Australian nut-processing facilities over a period of 3 years. *Foodborne Pathog. Dis.* 7:863–866.
- Eglezos, S., B. Huang, and E. Stuttard. 2008. A survey of the bacteriological quality of pre roasted peanut, almond, cashew, hazelnut and Brazil nut kernels received into three Australian nut-processing facilities over a period of 3 years. *J. Food Prot.* 71:402–404.
- Izurrieta, W. P., and E. Komitopoulou. 2012. Effect of moisture on *Salmonella* spp. heat resistance in cocoa and hazelnut shells. *Food Res. Int.* 45:1087–1092.
- Komitopoulou, E., and W. Peñaloza. 2009. Fate of *Salmonella* in dry confectionery raw materials. *J. Appl. Microbiol.* 106:1892–1900. Available at: <http://dx.doi.org/10.1111/j.1365-2672.2009.04144.x>.
- Li, Y., and K. R. Schneider. 2016. Microbiological hazard outbreaks in nuts and nuts-related food, p. 63–77. In J. M. Soon, L. Manning, and C. A. Wallace (ed.), *Foodborne diseases: Case studies of outbreaks in the agri-food industries*, CRC Press, Boca Raton, FL.
- Lima, J. R., L. M. Bruno, and M. de F. Borges. 2006. An evaluation of the physiochemical, microbiological and organoleptic quality of almond, hazelnut and cashew nut paste sold in Fortaleza in Ceara State. *Higiene Alimentar.* 20:51–54.
- Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.
- Little, C. L., N. Rawal, E. de Pinna, and J. McLaughlin. 2010. Survey of *Salmonella* contamination of edible nut kernels on retail sale in the UK. *Food Microbiol.* 27:171–174.
- Miller, B. D., C. E. Rigdon, J. Ball, J. M. Rounds, R. F. Klos, B. M. Brennan, K. D. Arends, P. Kennelly, C. Hedberg, and K. E. Smith. 2012. Use of traceback methods to confirm the source of a multistate *Escherichia coli* O157:H7 outbreak due to in-shell hazelnuts. *J. Food Prot.* 75:320–327.
- O’Grady, K. A., J. Powling, A. Tan, M. Valcanis, D. Lightfoot, J. Gregory, K. Lalor, R. Guy, B. Ingle, R. Andrews, S. Crerar, and R. Stafford. 2001. *Salmonella* Typhimurium DT104 - Australia, Europe. Archive no. 20010822.1980. Available at: <http://www.promedmail.org>.
- O’Mahony, M., E. Mitchell, R. J. Gilbert, D. N. Hutchinson, N. T. Begg, J. C. Rodhouse, and J. E. Morris. 1990. An outbreak of foodborne botulism associated with contaminated hazelnut yoghurt. *Epidemiol. Infect.* 104:385–395.
- Oregon Health Authority. 2017. Salmonellosis cases linked to hazelnuts sold at roadside stand. Available at: <http://www.oregon.gov/oha/ERD/Pages/Salmonellosis-Linked-Hazelnut.aspx>.
- Ostrolenk, M., and A. C. Hunter. 1939. Bacteria of the colon-aerogenes group on nut meats. *Food Research (J. Food Sci.)* 4:453–460.
- Santillana Farakos, S. M., R. Pouillot, and S. E. Keller. 2017. *Salmonella* survival kinetics on pecans, hazelnuts, and pine nuts at various water activities and temperatures. *J. Food Prot.* 80:879–885.
- Pearson, E. E. H. 2016. Important considerations for food process validations: strain selection, contamination level, and relevant treatment conditions. M.Sc. thesis. Oregon State University, Corvallis. [in-shell hazelnuts]

- Wehner, F. C., and C. J. Rabie. 1970. The micro-organisms in nuts and dried fruits. *Phytophylactica* 2:165–170.
- Weller, L. D. 2012. Efficacy of water, sodium hypochlorite, peroxyacetic acid, and acidified sodium chlorite for reducing microorganisms on in-shell hazelnuts. Ph.D. dissertation. Oregon State University, Corvallis.
- Weller, L. D., M. A. Daeschel, C. A. Durham, and M. T. Morrissey. 2013. Effects of water, sodium hypochlorite, peroxyacetic acid, and acidified sodium chlorite on in-shell hazelnuts inoculated with *Salmonella Enterica* serovar Panama. *J. Food Sci.* 78(12):M1885–M1891.
- Wright, D. G., J. Minarsich, M. A. Daeschel, and J. Waite-Cusic. 2017. Thermal inactivation of *Salmonella* spp. in commercial tree nut and peanut butters in finished packaging. *Journal of Food Safety*, in press (online 2 July 2017). [almond, almond+ cashew, hazelnut, peanut]
- Zhang, G., L. Hu, D. Melka, H. Wang, A. Laasri, E. W. Brown, E. Strain, M. Allard, V. K. Bunning, S. M. Musser, R. Johnson, S. M. Santillana Farakos, V. N. Scott, R. Pouillot, J. M. Van Doren, and T. S. Hammack. 2017. Prevalence of *Salmonella* in cashews, hazelnuts, macadamia nuts, pecans, pine nuts, and walnuts in the United States. *J. Food Prot.* 80:459–466. Available at: <http://www.jfoodprotection.org/doi/pdf/10.4315/0362-028X.JFP-16-396>.

MACADAMIA

- Beuchat, L. R. 1978. Relationship of water activity to moisture content in tree nuts. *J. Food Sci.* 43:754–755, 748.
- Ijabadeniyi, O. A., and Y. Pillay. 2017. Microbial safety of low water activity foods: study of simulated and Durban household samples. *J. Food Quality* 2017:ID4931521. Available at: <https://doi.org/10.1155/2017/4931521>. [almond and macadamia butters]
- Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.
- Little, C. L., N. Rawal, E. de Pinna, and J. McLaughlin. 2010. Survey of *Salmonella* contamination of edible nut kernels on retail sale in the UK. *Food Microbiol.* 27:171–174.
- St. Clair, V. J., and M. M. Klenk. 1990. Performance of three methods for the rapid identification of *Salmonella* in naturally contaminated foods and feeds. *J. Food Prot.* 53:961–964.
- Wall, M. M. 2013. Improving the quality and safety of macadamia nuts, p. 274–296. In L. J. Harris (ed.), *Improving the safety and quality of nuts*. Woodhead Publishing Ltd., Cambridge, UK.
- Zhang, G., L. Hu, D. Melka, H. Wang, A. Laasri, E. W. Brown, E. Strain, M. Allard, V. K. Bunning, S. M. Musser, R. Johnson, S. M. Santillana Farakos, V. N. Scott, R. Pouillot, J. M. Van Doren, and T. S. Hammack. 2017. Prevalence of *Salmonella* in cashews, hazelnuts, macadamia nuts, pecans, pine nuts, and walnuts in the United States. *J. Food Prot.* 80:459–466. Available at: <http://www.jfoodprotection.org/doi/pdf/10.4315/0362-028X.JFP-16-396>.

PEANUT

- American Peanut Council. 2009. Good manufacturing practices and industry best practices for peanut product manufacturers. Available at: <https://www.peanutsusa.com/phocadownload/GMPs/2009%20APC%20GMP%20BP%20Chapter%207%20Peanut%20Product%20Manufacturers%2016%20Nov%2009%20Final%20Edi%20t.pdf>.

- Balachandran, P., Y. Cao, L. Wong, M. R. Furtado, O. V. Petrauskene, and R. S. Tebbs. 2011. Evaluation of applied biosystems MicroSEQ® real-time PCR system for detection of *Salmonella* spp. in food. *J. AOAC Int.* 94(4):1106–1116.
- Ban, G.-H., and D.-H. Kang. 2014. Effects of gamma irradiation for inactivating *Salmonella* Typhimurium in peanut butter product during storage. *Int. J. Food Microbiol.* 171:48–53.
- Brar, P. K., L. G. Proano, L. M. Friedrich, L. J. Harris, and M. D. Danyluk. 2015. Survival of *Salmonella*, *Escherichia coli* O157:H7, and *Listeria monocytogenes* on raw peanut and pecan kernels stored at –24, 4, and 22°C. *J. Food Prot.* 78:323–332. doi:10.4315/0362-028X.JFP-14-327
- Burnett, S. L., E. R. Gehm, W. R. Weissinger, and L. R. Beuchat. 2000. Survival of *Salmonella* in peanut butter and peanut butter spread. *J. Appl. Microbiol.* 89:472–477. Available at: <http://dx.doi.org/10.1046/j.1365-2672.2000.01138.x>.
- Calhoun, S. 2013. Improving the quality and safety of peanuts, p. 330–349. In L. J. Harris (ed.), *Improving the safety and quality of nuts*. Woodhead Publishing Ltd., Cambridge, UK.
- Calhoun, S., L. Post, B. Warren, S. Thompson, and A. R. Bontempo. 2013. Prevalence and concentration of *Salmonella* on raw shelled peanuts in the United States. *J. Food Prot.* 76:575–579.
- Candlish, A. A. G., S. M. Pearson, K. E. Aidoo, J. E. Smith, B. Kelly, and H. Irvine. 2001. A survey of ethnic foods for microbial quality and aflatoxin content. *Food Addit. Contam.* 18:129–136.
- Carminati, J. de A., D. P. Amorim Neto, K. N. Morishita, L. V. Takano, A. Olivier Bernardi, M. V. Copetti, and M. da S. Nascimento. 2016. Microbiological contamination in peanut confectionery processing plants. *J. Appl. Microbiol.* 121:1071–1078.
- Cavallaro, E., K. Date, C. Medus, S. Meyer, B. Miller, C. Kim, S. Nowicki, S. Cosgrove, D. Sweat, Q. Phan, J. Flint, E. R. Daly, J. Adams, E. Hyytia-Trees, P. Gerner-Smidt, R. M. Hoekstra, C. Schwensohn, A. Langer, S. V. Sodha, M. C. Rogers, F. J. Angulo, R. V. Tauxe, I. T. Williams, and C. Barton Behravesh. 2011. *Salmonella* Typhimurium infections associated with peanut products. *N. Engl. J. Med.* 365:601–610. Available at: <http://dx.doi.org/10.1056/NEJMoa1011208>.
- Centers for Disease Control and Prevention. 2007. Multistate outbreak of *Salmonella* serotype Tennessee infections associated with peanut butter—United States, 2006–2007. *MMWR Weekly* 56(21):521–524. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5322a8.htm>.
- Centers for Disease Control and Prevention. 2009. Multistate outbreak of *Salmonella* infections associated with peanut butter and peanut butter-containing products—United States, 2008–2009. *MMWR Weekly* 58(4):85–90. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5804a4.htm>.
- Centers for Disease Control and Prevention. 2010. Multistate outbreak of *Salmonella* Typhimurium infections linked to peanut butter, 2008–2009 (final update). Available at: <http://www.cdc.gov/salmonella/typhimurium/update.html>.
- Centers for Disease Control and Prevention. 2012. Multistate outbreak of *Salmonella* Bredeney infections linked to peanut butter manufactured by Sunland, Inc. (final update). Available at: <http://www.cdc.gov/salmonella/bredeney-09-12/index.html>.
- Centers for Disease Control and Prevention. 2013. Notes from the field: *Salmonella* Bredeney infections linked to a brand of peanut butter—United States, 2012. *MMWR Weekly* 62(6):107.

Available at:

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6206a4.htm?s_cid=mm6206a4_e.

Centers for Disease Control and Prevention. 2014. Multistate outbreak of *Salmonella* Braenderup infections linked to nut butter manufactured by nSpired Natural Foods, Inc. (final update).

Available at: <http://www.cdc.gov/salmonella/braenderup-08-14/index.html>.

Chang, A. S., A. Sreedharan, and K. R. Schneider. 2013. Peanut and peanut products: A food safety perspective. *Food Control* 32:296–303.

Chen, W., D. A. Golden, F. J. Critzer, and P. M. Davidson. 2015. Antimicrobial activity of cinnamaldehyde, carvacrol, and lauric arginate against *Salmonella* Tennessee in a glycerol-sucrose model and peanut paste at different fat concentrations. *J. Food Prot.* 78:1488–1495.

Chou, J. H., P. H. Hwang, and M. D. Malison. 1988. An outbreak of type A foodborne botulism in Taiwan due to commercially preserved peanuts. *Int. J. Epidemiol.* 17:899–902.

Christian, K. A., J. Schlegel, L. Ard, E. Mays, P. Curry, and M. Davis. 2007. Outbreak of *Salmonella* serotype Thompson associated with boiled peanuts—South Carolina, 2006. (abstract). In 56th Annual Epidemic Intelligence Service Conference, CDC, Atlanta, GA, p. 62. Available at: http://www.cdc.gov/eis/downloads/2007_eis_conference.pdf.

Clavero, M. R. S., R. E. Brackett, L. R. Beuchat, and M. P. Doyle. 2000. Influence of water activity and storage conditions on survival and growth of proteolytic *Clostridium botulinum* in peanut spread. *Food Microbiol.* 17:53–61.

Deering, A. J., L. J. Mauer, and R. E. Pruitt. 2012. Internalization of *E. coli* O157:H7 and *Salmonella* spp. in plants: A review. *Food Res. Int.* 45:567–575.

Deng, X., Z. Li, and W. Zhang. 2012. Transcriptome sequencing of *Salmonella enterica* serovar Enteritidis under desiccation and starvation stress in peanut oil. *Food Microbiol.* 30:311–315.

D'Souza, T., M. Karwe, and D. W. Schaffner. 2012. Effect of high hydrostatic pressure and pressure cycling on a pathogenic *Salmonella enterica* serovar cocktail inoculated into creamy peanut butter. *J. Food Prot.* 75:169–173.

D'Souza, T., M. Karwe, and D. W. Schaffner. 2014. Effect of high hydrostatic pressure on *Salmonella* inoculated into creamy peanut butter with modified composition. *J. Food Prot.* 10:1664–1668.

Eglezos, S. 2010. The bacteriological quality of retail-level peanut, almond, cashew, hazelnut, Brazil, and mixed nut kernels produced in two Australian nut-processing facilities over a period of 3 years. *Foodborne Pathog. Dis.* 7:863–866.

Eglezos, S., B. Huang, and E. Stuttard. 2008. A survey of the bacteriological quality of pre roasted peanut, almond, cashew, hazelnut and Brazil nut kernels received into three Australian nut-processing facilities over a period of 3 years. *J. Food Prot.* 71:402–404.

Fong, K., and S. Wang. 2016. Strain-specific survival of *Salmonella enterica* in peanut oil, peanut shell, and chia seeds. *J. Food Prot.* 79:361–368.

Galvez, F. C., M. L. Francisco, B. J. Villarino, A. O. Lustre, and A.V. Resurreccion. 2003. Manual sorting to eliminate aflatoxin from peanuts. *J. Food Prot.* 66:1879–1884.

Grasso, E. M., S. F. Grove, L. A. Halik, F. Arritt, and S. E. Keller. 2015. Cleaning and sanitation of *Salmonella*-contaminated peanut butter processing equipment. *Food Microbiol.* 46:100–106. Available at: <http://dx.doi.org/10.1016/j.fm.2014.03.003>.

Grasso, E. M., J. A. Somerville, V. M. Balasubramaniam, and K. Lee. 2010. Minimal effects of high-pressure treatment on *Salmonella enterica* serovar Typhimurium inoculated into peanut butter and peanut products. *J. Food Sci.* 75(8):E522–E526.

- Hammack, T. S., R. M. Amguaña, G. A. June, P. S. Sherrod, and W. H. Andrews. 1999. Relative effectiveness of selenite cystine broth, tetrathionate broth, and Rappaport-Vassiliadis medium for the recovery of *Salmonella* spp. from foods with a low microbial load. *J. Food Prot.* 62:16–21.
- He, Y., D. Guo, J. Yang, M. L. Tortorello, and W. Zhang. 2011. Survival and heat resistance of *Salmonella enterica* and *Escherichia coli* O157:H7 in peanut butter. *Appl. Environ. Microbiol.* 77(23): 8434–8438. Available at: <http://dx.doi.org/10.1128/AEM.06270-11>.
- He, Y., Y. Li, J. K. Salazar, J. Yang, M. L. Tortorello, and W. Zhang. 2013. Increased water activity reduces thermal resistance of *Salmonella enterica* in peanut butter. *Appl. Environ. Microbiol.* 79(15):4763–4767. Available at: <http://dx.doi.org/10.1128/AEM.01028-13>.
- Hvizdzak, A. L., S. Beamer, J. Jaczynski, and K. E. Matak. 2010. Use of electron beam radiation for the reduction of *Salmonella enterica* serovars Typhimurium and Tennessee in peanut butter. *J. Food Prot.* 73:353–357.
- Johnson, R., J. Mills, J. Coln-Reveles, and T. Hammack. 2009. VIDAS *Salmonella* (SLM) assay method EasySLM with ChromID *Salmonella* (SM2) agar. *J. AOAC Int.* 92:1861–1864.
- Kaptan, G., and B. Fischhoff. 2010. Sticky decisions: peanut butter in a time of *Salmonella*. *Emerg. Infect. Dis.* 16:900–904. Available at: http://wwwnc.cdc.gov/eid/article/16/5/ad-1605_article.
- Kataoka, A., E. Enache, D. G. Black, P. H. Elliott, C. D. Napier, R. Podolak, and M. M. Hayman. 2014. Survival of *Salmonella* Tennessee, *Salmonella* Typhimurium DT104, and *Enterococcus faecium* in peanut paste formulations at two different levels of water activity and fat. *J. Food Prot.* 77:1252–1259. Available at: <http://dx.doi.org/10.4315/0362-028X.JFP-13-553>.
- Keller, S. E., E. M. Grasso, L. A. Halik, G. J. Fleischman, S. J. Chirtel, and S. F. Grove. 2012. Effect of growth on the thermal resistance and survival of *Salmonella* Tennessee and Oranienburg in peanut butter, measured by a new thin-layer thermal death time device. *J. Food Prot.* 75:1125–1130.
- Kenney, S. J., and L. R. Beuchat. 2004. Survival, growth, and thermal resistance of *Listeria monocytogenes* in products containing peanut and chocolate. *J. Food Prot.* 67:2205–2211.
- Killalea, D., L. R. Ward, D. Roberts, J. de Louvois, F. Sufi, J. M. Stuart, P. G. Wall, M. Susman, M. Schwieger, P. J. Sanderson, I. S. T. Fisher, P. S. Mead, O. N. Gill, C. L. R. Bartlett, and B. Rowe. 1996. International epidemiological and microbiological study of outbreak of *Salmonella* Agona infection from a ready to eat savoury snack—I: England and Wales and the United States. *Br. Med. J.* 313:1105–1107. Available at: <http://dx.doi.org/10.1136/bmj.313.7065.1105>.
- Kirk, M. D., C. L. Little, M. Lem, M. Fyfe, D. Genobile, A. Tan, J. Threlfall, A. Paccagenella, D. Lightfoot, H. Lyi, L. McIntyre, L. Ward, D. J. Brown, S. Surnam, and I. S. T. Fisher. 2004. An outbreak due to peanuts in their shell caused by *Salmonella enterica* serotypes Stanley and Newport – sharing molecular information to solve international outbreaks. *Epidemiol. Infect.* 132:571–577.
- Lathrop, A. A., T. Taylor, and J. Schnepf. 2014. Survival of *Salmonella* during baking of peanut butter cookies. *J. Food Prot.* 77:635–639.
- Li, C., L. Huang, and J. Chen. 2014. Comparative study of thermal inactivation kinetics of *Salmonella* spp. in peanut butter and peanut butter spread. *Food Control* 45:143–149.

- Li, Y., and K. R. Schneider. 2016. Microbiological hazard outbreaks in nuts and nuts-related food, p. 63–77. In J. M. Soon, L. Manning, and C. A. Wallace (ed.), *Foodborne diseases: Case studies of outbreaks in the agri-food industries*, CRC Press, Boca Raton, FL.
- Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.
- Little, C. L., N. Rawal, E. de Pinna, and J. McLauchlin. 2010. Survey of *Salmonella* contamination of edible nut kernels on retail sale in the UK. *Food Microbiol.* 27:171–174.
- Ma, L., G. Zhang, P. Gerner-Smidt, V. Mantripragada, I. Ezeoke, and M. P. Doyle. 2009. Thermal inactivation of *Salmonella* in peanut butter. *J. Food Prot.* 72:1596–1601.
- Marler Clark LLP. 2006. Pumpkin festival boiled peanuts. Available at: <http://outbreakdatabase.com/details/pumpkin-festival-boiled-peanuts-2006/>. [see also ProMED mail, 2006, or Star-News Online, 2006]
- Matak, K.E., A. L. Hvizdzak, S. Beamer, and J. Jaczynski. 2010. Recovery of *Salmonella enterica* serovars Typhimurium and Tennessee in peanut butter after electron beam exposure. *J. Food Sci.* 75(7):M462–M467.
- Mattick, K. L., F. Jørgensen, P. Wang, J. Pound, M. H. Vandeven, L. R. Ward, J. D. Legan, H. M. Lappin-Scott, and T. J. Humphrey. 2001. Effect of challenge temperature and solute type on heat tolerance of *Salmonella* serovars at low water activity. *Appl. Environ. Microbiol.* 67:4128–4136. Available at: <http://dx.doi.org/10.1128/AEM.67.9.4128-4136.2001>.
- McEgan, R., and M. D. Danyluk. 2015. Evaluation of aqueous and alcohol-based quaternary ammonium sanitizers for inactivating *Salmonella* spp., *Escherichia coli* O157:H7, and *Listeria monocytogenes* on peanut and pistachio shells. *Food Microbiol.* 47:93–98.
- Miksch, R., J. Leek, S. Myoda, T. Nguyen, K. Tenney, V. Svidenko, K. Greeson, and M. Samadpour. 2013. Prevalence and counts of *Salmonella* and enterohemorrhagic *Escherichia coli* in raw, shelled runner peanuts. *J. Food Prot.* 76:1668–1675.
- Ng, S., G. Rouch, R. Dedman, B. Harries, A. Boyden, L. McLennan, S. Beaton, A. Tan, S. Heaton, D. Lightfoot, M. Vulcanis, G. Hogg, W. Scheil, S. Cameron, M. Kirk, J. Feldheim, R. Holland, C. Murray, N. Rose, and P. Eckert. 1996. Human salmonellosis and peanut butter. *Commun. Dis. Intell.* 20(14):326. Available at: <http://www.health.gov.au/cdi>.
- Ostrolenk, M., and A. C. Hunter. 1939. Bacteria of the colon-aerogenes group on nut meats. *Food Research (J. Food Sci.)* 4:453–460.
- OzFoodNet Working Group. 2010. OzFoodNet quarterly report, 1 April to 30 June 2010. *Commun. Dis. Intell.* 34(3):345–354. Available at: <http://www.health.gov.au/cdi>.
- Park, E.-J., S.-W. Oh, and D.-H. Kang. 2008. Fate of *Salmonella* Tennessee in peanut butter at 4 and 22 °C. *J. Food Sci.* 73:M82–M86.
- Pitt, J. I., A. D. Hocking, K. Bhudhasamia, B. F. Miscamble, K. A. Wheeler, and P. Tanboon-Ek. 1993. The normal mycoflora of commodities from Thailand. 1. Nuts and oilseeds. *Int. J. Food Microbiol.* 20:211–226.
- Poirier, D., T. H. Sanders, and J. P. Davis. 2014. *Salmonella* surrogate reduction using industrial peanut dry roasting parameters. *Peanut Sci.* 41(2):72–84.
- ProMED-mail. 2006. Salmonellosis, boiled peanuts – USA (South Carolina). Archive no. 20061102.3135. Available at: <http://www.promedmail.org>. [same as Star-News Online, 2006]
- Rosbach, J. 2016. Association of *Salmonella* with *Arachis hypogaea* (peanut plants and seedpods). M.Sc. thesis. University of Minnesota, St. Paul.

- Roszbach, J. D., R. C. Fink, M. J. Sadowsky, C. Tong, and F. Diez-Gonzalez. 2017. Factors influencing the *Salmonella* internalization into seedpods and whole plants of *Arachis hypogaea* (L.). *Food Microbiol.* 66:184–189.
- Sanders, T. H., and R. S. Calhoun. 2014. Effect of oil and dry roasting of peanuts at various temperatures and times on survival of *Salmonella* and *Enterococcus faecium*. *Peanut Sci.* 41(2):65–71.
- Schaffner, D. W., R. Buchanan, S. Calhoun, M. D. Danyluk, L. J. Harris, D. Djordjevic, R. Whiting, B. Kottapalli, and M. Wiedmann. 2013. Issues to consider when setting intervention targets with limited data for low-moisture food commodities: a peanut case study. *J. Food Prot.* 2:360–369. Available at: <http://dx.doi.org/10.4315/0362-028X.JFP-12-171>.
- Scheil, W., S. Cameron, C. Dalton, C. Murray, and D. Wilson. 1998. A South Australian *Salmonella* Mbandaka outbreak investigation using a database to select controls. *Aust. N.Z. J. Public Health* 22:536–539.
- Scheil, W., C. Dalton, S. Cameron, and C. Murray. 1997. A multi-state *Salmonella* Mbandaka outbreak associated with peanut butter: the South Australian experience. *J. Clinical Epidem.* 50 (Supplement 1):18S
- Shachar, D., and S. Yaron. 2006. Heat tolerance of *Salmonella enterica* serovars Agona, Enteritidis, and Typhimurium in peanut butter. *J. Food Prot.* 69:2687–2691.
- Sheppard, Y. D., D. Middleton, Y. Whitfield, F. Tyndel, S. Haider, J. Spiegelman, R. H. Swartz, M. P. Nelder, S. L. Baker, L. Landry, R. MacEachern, S. Deamond, L. Ross, G. Peters, M. Baird, D. Rose, G. Sanders, and J. W. Austin. 2012. Intestinal toxemia botulism in 3 adults, Ontario, Canada, 2006–2008. *Emerg. Infect. Dis.* 18(1):1–6. Available at: <http://wwwnc.cdc.gov/eid/article/18/1/pdfs/11-0533.pdf>.
- Sheth, A. N., M. Hoekstra, N. Patel, G. Ewald, C. Lord, C. Clarke, E. Villamil, K. Niksich, C. Bopp, T.-A. Nguyen, D. Zink, and M. Lynch. 2011. A national outbreak of *Salmonella* serotype Tennessee infections from contaminated peanut butter: a new food vehicle for salmonellosis in the United States. *Clin. Infect. Dis.* 53(4):356–362. Available at: <http://dx.doi.org/10.1093/cid/cir407>.
- Shohat, T., M. S. Green, D. Merom, O. N. Gill, A. Reisfeld, A. Matas, D. Blau, N. Gal, and P. E. Slater. 1996. International epidemiological and microbiological study of outbreak of *Salmonella* Agona infection from a ready to eat savoury snack—II: Israel. *Br. Med. J.* 313:1107–1109. Available at: <http://dx.doi.org/10.1136/bmj.313.7065.1107>.
- Song, W.-J., and D.-H. Kang. 2016. Inactivation of *Salmonella* Senftenberg, *Salmonella* Typhimurium and *Salmonella* Tennessee in peanut butter by 915 MHz microwave heating. *Food Microbiol.* 53, Part B:48–52.
- Star-News Online [edited]. 2006. Salmonellosis, boiled peanuts – USA (South Carolina). Archive no. 20061102.3135. [same as ProMED-mail, 2006]
- Tahergorabi, R., K. E. Matak, and J. Jaczynski. 2012. Application of electron beam to inactivate *Salmonella* in food: Recent developments. *Food Res. Int.* 45(2):685–694.
- Threlfall, E. J., M. D. Hampton, L. R. Ward, and B. Rowe. 1996. Application of pulsed-field gel electrophoresis to an international outbreak of *Salmonella agona*. *Emerg. Infect. Dis.* 2:130–132. Available at: http://wwwnc.cdc.gov/eid/article/2/2/96-0209_article.
- U.S. Food and Drug Administration. 2009. Guidance for industry: Measures to address the risk for contamination by *Salmonella* species in food containing a peanut-derived product as an ingredient. Available at:

<https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/ProducePlantProducts/ucm115386.htm>.

Wright, D. G., J. Minarsich, M. A. Daeschel, and J. Waite-Cusic. 2017. Thermal inactivation of *Salmonella* spp. in commercial tree nut and peanut butters in finished packaging. *Journal of Food Safety*, in press (online 2 July 2017). [almond, almond+ cashew, hazelnut, peanut]

PECAN

- Ban, C., D. H. Lee, Y. Jo, H. Bae, H. Seong, S. O. Kim, S. Lim, and Y. J. Choi. 2018. Use of superheated steam to inactivate *Salmonella enterica* serovars Typhimurium and Enteritidis contamination on black peppercorns, pecans, and almonds. *J. Food Eng.* 222:284–291.
- Beuchat, L. R. 1973. *Escherichia coli* on pecans: Survival under various storage conditions and disinfection with propylene oxide. *J. Food Sci.* 38:1063–1066.
- Beuchat, L. R. 1975. Incidence of molds on pecan nuts at different points during harvesting. *Appl. Microbiol.* 29:852–854. Available at: <http://aem.asm.org/content/29/6/852.full.pdf+html>.
- Beuchat, L. R. 1978. Relationship of water activity to moisture content in tree nuts. *J. Food Sci.* 43:754–755, 748.
- Beuchat, L. R., and E. K. Heaton. 1975. *Salmonella* survival on pecans as influenced by processing and storage conditions. *Appl. Microbiol.* 29:795–801. Available at: <http://aem.asm.org/content/29/6/795.full.pdf+html>.
- Beuchat, L. R., and E. K. Heaton. 1980. Factors influencing fungal quality of pecans stored at refrigeration temperatures. *J. Food Sci.* 45:251–254.
- Beuchat, L. R., and D. A. Mann. 2010. Factors affecting infiltration and survival of *Salmonella* on in-shell pecans and pecan nutmeats. *J. Food Prot.* 73:1257–1268.
- Beuchat, L. R., and D. A. Mann. 2010. Survival and growth of *Salmonella* in high-moisture pecan nutmeats, in-shell pecans, inedible nut components, and orchard soil. *J. Food Prot.* 73:1975–1985.
- Beuchat, L. R., and D. A. Mann. 2011. Inactivation of *Salmonella* on in-shell pecans during conditioning treatments preceding cracking and shelling. *J. Food Prot.* 74:588–602.
- Beuchat, L. R., and D. A. Mann. 2011. Inactivation of *Salmonella* on pecan nutmeats by hot air treatment and oil roasting. *J. Food Prot.* 74:1441–1450.
- Beuchat, L. R., D. A. Mann, and W. Q. Alali. 2012. Evaluation of sanitizers for inactivating *Salmonella* on in-shell pecans and pecan nutmeats. *J. Food Prot.* 75:1930–1938.
- Beuchat, L. R., D. A. Mann, and W. Q. Alali. 2013. Efficacy of sanitizers in reducing *Salmonella* on pecan nutmeats during cracking and shelling. *J. Food Prot.* 76:770–778.
- Beuchat, L. R., and R. B. Pegg. 2013. Improving the safety and quality of pecans, p. 297–329. In L. J. Harris (ed.), *Improving the safety and quality of nuts*. Woodhead Publishing Ltd., Cambridge, UK.
- Blanchard, R. O., and R. T. Hanlin. 1973. Effect of propylene oxide treatment on the microflora of pecans. *Appl. Microbiol.* 26:768–772. Available at: <http://aem.asm.org/content/26/5/768.full.pdf+html>.
- Brar, P. K., L. G. Proano, L. M. Friedrich, L. J. Harris, and M. D. Danyluk. 2015. Survival of *Salmonella*, *Escherichia coli* O157:H7, and *Listeria monocytogenes* on raw peanut and pecan kernels stored at –24, 4, and 22°C. *J. Food Prot.* 78:323–332. doi:10.4315/0362-028X.JFP-14-327

- Brar, P. K., L. K. Strawn, and M. D. Danyluk. 2016. Prevalence, level, and types of *Salmonella* isolated from North American in-shell pecans over four harvest years. *J. Food Prot.* 79:352–360. Available at: <http://dx.doi.org/10.4315/0362-028X.JFP-15-365>.
- Chipley, J. R., and E. K. Heaton. 1971. Microbial flora of pecan meat. *Appl. Microbiol.* 22:252–253. Available at: <http://aem.asm.org/content/22/2/252.full.pdf+html>.
- Deering, A. J., L. J. Mauer, and R. E. Pruitt. 2012. Internalization of *E. coli* O157:H7 and *Salmonella* spp. in plants: A review. *Food Res. Int.* 45:567–575.
- Dobhal, S., G. Zhang, C. Rohla, M. W. Smith, and L. M. Ma. 2014. A simple, rapid, cost-effective and sensitive method for detection of *Salmonella* in environmental and pecan samples. *J. Appl. Microbiol.* 117:1181–1190.
- Fishbein, M., and B. F. Surkiewicz. 1964. Comparison of the recovery of *Escherichia coli* from frozen foods and nutmeats by confirmatory incubation in EC medium at 44.5 and 45.5 C. *Appl. Microbiol.* 12:127–131. Available at: <http://aem.asm.org/content/12/2/127.full.pdf+html>.
- Hao, D. Y.-Y., E. K. Heaton, and L. R. Beuchat. 1989. Microbial, compositional, and other quality characteristics of pecan kernels stored at –20°C for twenty-five years. *J. Food Sci.* 54:472–474.
- Hyndman, J. B. 1963. Comparison of enterococci and coliform microorganisms in commercially produced pecan nut meats. *Appl. Microbiol.* 11:268–272. Available at: <http://aem.asm.org/content/11/3/268.full.pdf+html>.
- Karagöz, I., R. G. Moreira, and M. E. Castell-Perez. 2014. Radiation D_{10} values for *Salmonella* Typhimurium LT2 and an *Escherichia coli* cocktail in pecan nuts (Kanza cultivar) exposed to different atmospheres. *Food Control* 39:146–153.
- Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.
- Little, C. L., N. Rawal, E. de Pinna, and J. McLaughlin. 2010. Survey of *Salmonella* contamination of edible nut kernels on retail sale in the UK. *Food Microbiol.* 27:171–174.
- Marcus, K. A., and H. J. Amling. 1973. *Escherichia coli* field contamination of pecan nuts. *Appl. Microbiol.* 26:279–281. Available at: <http://aem.asm.org/content/26/3/279.full.pdf+html>.
- Ostrolenk, M., and A. C. Hunter. 1939. Bacteria of the colon-aerogenes group on nut meats. *Food Research (J. Food Sci.)* 4:453–460.
- Ostrolenk, M., and H. Welch. 1940. Incidence and significance of the colon-aerogenes group on pecan meats. *Food Research (J. Food Sci.)* 6:117–125.
- Salazar, F., S. Garcia, M. Lagunas-Solar, Z. Pan, and J. Cullor. 2017. Efficacy of a heat-spray and heat-double spray process on inoculated nuts with *Salmonella enteritidis* ATCC 1045. *Food Control* 81:74–79. [almonds, pecans, pistachios, walnuts]
- Santillana Farakos, S. M., R. Pouillot, R. Johnson, J. Spungen, I. Son, N. Anderson, G. R. Davidson, and J. M. Van Doren. 2017. A quantitative assessment of the risk of human salmonellosis arising from the consumption of pecans in the United States. *J. Food Prot.* 80:1574–1591. Available at: <http://www.jfoodprotection.org/doi/pdf/10.4315/0362-028X.JFP-16-511>.
- Santillana Farakos, S. M., R. Pouillot, and S. E. Keller. 2017. *Salmonella* survival kinetics on pecans, hazelnuts, and pine nuts at various water activities and temperatures. *J. Food Prot.* 80:879–885.

Wehner, F. C., and C. J. Rabie. 1970. The micro-organisms in nuts and dried fruits. *Phytophylactica* 2:165–170.

Zhang, G., L. Hu, D. Melka, H. Wang, A. Laasri, E. W. Brown, E. Strain, M. Allard, V. K. Bunning, S. M. Musser, R. Johnson, S. M. Santillana Farakos, V. N. Scott, R. Pouillot, J. M. Van Doren, and T. S. Hammack. 2017. Prevalence of *Salmonella* in cashews, hazelnuts, macadamia nuts, pecans, pine nuts, and walnuts in the United States. *J. Food Prot.* 80:459–466. Available at: <http://www.jfoodprotection.org/doi/pdf/10.4315/0362-028X.JFP-16-396>.

PINE NUT (PIGNOLIA)

Bedard, B., B. S. Kennedy, and A. C. Weimer. 2014. Geographical information software and shopper card data, aided in the discovery of a *Salmonella* Enteritidis outbreak associated with Turkish pine nuts. *Epidemiol. Inf.* 142:2567–2571.

Beuchat, L. R. 1978. Relationship of water activity to moisture content in tree nuts. *J. Food Sci.* 43:754–755, 748.

Centers for Disease Control and Prevention. 2011. Multistate outbreak of human *Salmonella* Enteritidis infections linked to Turkish pine nuts (final update). Available at: <http://www.cdc.gov/salmonella/2011/pine-nuts-11-17-2011.html>.

Fishbein, M., and B. F. Surkiewicz. 1964. Comparison of the recovery of *Escherichia coli* from frozen foods and nutmeats by confirmatory incubation in EC medium at 44.5 and 45.5 C. *Appl. Microbiol.* 12:127–131. Available at: <http://aem.asm.org/content/12/2/127.full.pdf+html>.

Ha, J.-W., and D.-H. Kang. 2015. Combining lactic acid spray with NIR radiant heating to inactivate *Salmonella enterica* serovar Enteritidis on almond and pine nut kernels. *Appl. Environ. Microbiol.* 81:4517–4524. Available at: <http://dx.doi.org/10.1128/AEM.00943-15>.

Li, Y., and K. R. Schneider. 2016. Microbiological hazard outbreaks in nuts and nuts-related food, p. 63–77. In J. M. Soon, L. Manning, and C. A. Wallace (ed.), *Foodborne diseases: Case studies of outbreaks in the agri-food industries*, CRC Press, Boca Raton, FL.

Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.

Mikkelsen, A. Æ., F. Jessen, N. Z. Ballin. 2014. Species determination of pine nuts in commercial samples causing pine nut syndrome. *Food Control* 40:19–25.

Ostrolenk, M., and A. C. Hunter. 1939. Bacteria of the colon-aerogenes group on nut meats. *Food Research (J. Food Sci.)* 4:453–460.

Santillana Farakos, S. M., R. Pouillot, and S. E. Keller. 2017. *Salmonella* survival kinetics on pecans, hazelnuts, and pine nuts at various water activities and temperatures. *J. Food Prot.* 80:879–885.

Wang, H., V. S. Gill, C.-M. Cheng, N. Gonzalez-Escalona, K. A. Irvin, J. Zheng, R. L. Bell, A. P. Jacobson, and T. S. Hammack. 2015. Evaluation and comparison of rapid methods for the detection of *Salmonella* in naturally contaminated pine nuts using different pre enrichment media. *Food Microbiol.* 46:58–65.

Zhang, G., L. Hu, D. Melka, H. Wang, A. Laasri, E. W. Brown, E. Strain, M. Allard, V. K. Bunning, S. M. Musser, R. Johnson, S. M. Santillana Farakos, V. N. Scott, R. Pouillot, J. M. Van Doren, and T. S. Hammack. 2017. Prevalence of *Salmonella* in cashews, hazelnuts, macadamia nuts, pecans, pine nuts, and walnuts in the United States. *J. Food Prot.* 80:459–466. Available at: <http://www.jfoodprotection.org/doi/pdf/10.4315/0362-028X.JFP-16-396>.

PISTACHIO

- Akbas, M. Y., and M. Ozdemir. 2006. Effectiveness of ozone for inactivation of *Escherichia coli* and *Bacillus cereus* in pistachios. *Int. J. Food Sci. Technol.* 41:513–519.
- Al-Moghazy, M., S. Boveri, and A. Pulvirenti. 2014. Microbiological safety in pistachios and pistachio containing products. *Food Control* 36:88–93.
- Ban, G.-H., and D.-H. Kang. 2016. Effectiveness of superheated steam for inactivation of *Escherichia coli* O157:H7, *Salmonella* Typhimurium, *Salmonella* Enteritidis phage type 30, and *Listeria monocytogenes* on almonds and pistachios. *Int. J. Food Microbiol.* 220:19–25.
- Beuchat, L. R. 1978. Relationship of water activity to moisture content in tree nuts. *J. Food Sci.* 43:754–755, 748.
- California Pistachio Research Board. 2009. Good agricultural practices manual: Guidelines for California pistachio growers. Available at: http://www.calpistachioresearch.org/GAP_Manual_2009.pdf.
- Candlish, A. A. G., S. M. Pearson, K. E. Aidoo, J. E. Smith, B. Kelly, and H. Irvine. 2001. A survey of ethnic foods for microbial quality and aflatoxin content. *Food Addit. Contam.* 18:129–136.
- Centers for Disease Control and Prevention. 2009. Multistate outbreak of *Salmonella* infections linked to pistachio nuts (final update). Available at: <https://www.cdc.gov/salmonella/2009/pistachio-nuts-4-14-2009.html>.
- Centers for Disease Control and Prevention. 2016. Multistate outbreak of *Salmonella* Montevideo and *Salmonella* Senftenberg infections linked to Wonderful Pistachios (final update). Available at: <http://www.cdc.gov/salmonella/montevideo-03-16/index.html>.
- Harris, L. J., and L. Ferguson. 2013. Improving the safety of almonds and pistachios, p. 350–378. In L. J. Harris (ed.), *Improving the safety and quality of nuts*. Woodhead Publishing Ltd., Cambridge, UK.
- Harris, L. J., V. Lieberman, R. P. Mashiana, E. Atwill, M. Yang, J. C. Chandler, B. Bisha, and T. Jones. 2016. Prevalence and amounts of *Salmonella* found on raw California inshell pistachios. *J. Food Prot.* 79:1304–1315. doi:10.4315/0362-028X.JFP-16-054
- Lambertini, E., J. Barouei, D. W. Schaffner, M. D. Danyluk, and L. J. Harris. 2017. Modeling the risk of salmonellosis from consumption of pistachios produced and consumed in the United States. *Food Microbiol.* 67:85–96. doi.org/10.1016/j.fm.2017.06.003
- Li, Y., and K. R. Schneider. 2016. Microbiological hazard outbreaks in nuts and nuts-related food, p. 63–77. In J. M. Soon, L. Manning, and C. A. Wallace (ed.), *Foodborne diseases: Case studies of outbreaks in the agri-food industries*, CRC Press, Boca Raton, FL.
- Lieberman, V., M. Yang, T. Jones, E. Atwill, and L. J. Harris. 2015. Presence and levels of *Salmonella* on raw California pistachios. In Poster abstracts, International Association for Food Protection Annual Meeting, Portland, OR, July 25–28, abstract P1-84. Available at: <https://iafp.confex.com/iafp/2015/webprogram/Paper9775.html>.
- Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.
- Little, C. L., N. Rawal, E. de Pinna, and J. McLauchlin. 2010. Survey of *Salmonella* contamination of edible nut kernels on retail sale in the UK. *Food Microbiol.* 27:171–174.
- Kimber, M. A., H. Kaur, L. Wang, M. D. Danyluk, and L. J. Harris. 2012. Survival of *Salmonella*, *Escherichia coli* O157:H7, and *Listeria monocytogenes* on inoculated almonds

- and pistachios stored at -19, 4, and 24°C. *J. Food Prot.* 75:1394–1403. doi:10.4315/0362-028X.JFP-12-023
- McEgan, R., and M. D. Danyluk. 2015. Evaluation of aqueous and alcohol-based quaternary ammonium sanitizers for inactivating *Salmonella* spp., *Escherichia coli* O157:H7, and *Listeria monocytogenes* on peanut and pistachio shells. *Food Microbiol.* 47:93–98.
- Pignata, C., D. D'Angelo, D. Basso, M. C. Cavallero, S. Beneventi, D. Tartaro, V. Meineri, and G. Gilli. 2014. Low-temperature, low-pressure gas plasma application on *Aspergillus brasiliensis*, *Escherichia coli* and pistachios. *J. Appl. Microbiol.* 116:1137–1148.
- Salazar, F., S. Garcia, M. Lagunas-Solar, Z. Pan, and J. Cullor. 2017. Efficacy of a heat-spray and heat-double spray process on inoculated nuts with *Salmonella enteritidis* ATCC 1045. *Food Control* 81:74–79. [almonds, pecans, pistachios, walnuts]
- U.S. Food and Drug Administration. 2011. Guidance for industry: Measures to address the risk for contamination by *Salmonella* species in food containing a pistachio-derived product as an ingredient. Available at: <https://www.fda.gov/downloads/Food/GuidanceRegulation/UCM273568.pdf>.
- U.S. Food and Drug Administration. 2014. FDA investigation summary – Multistate outbreak of *Salmonella* Senftenberg infections associated with pistachios from a California roaster. Available at: <http://www.fda.gov/Food/RecallsOutbreaksEmergencies/Outbreaks/ucm386377.htm>.
- Venkitasamy, C., M. T. Brandl, B. Wang, T. H. McHugh, R. Zhang, and Z. Pan. 2017. Drying and decontamination of raw pistachios with sequential infrared drying, tempering and hot air drying. *Int. J. Food Microbiol.* 246:85–91.
- Whitworth, J. 2014. ARO Pistachios hit by FDA warning letter. *Food Quality News*, January 27. Available at: <http://www.foodqualitynews.com/Legislation/ARO-Pistachios-hit-by-FDA-warning-letter>.

SESAME SEED

- Al-Nabulsi, A. A., A. N. Olaimat, T. M. Osaili, R. R. Shaker, N. Zein Elabedeen, Z. W. Jaradat, A. Abushelaibi, and R. A. Holley. 2014. Use of acetic and citric acids to control *Salmonella* Typhimurium in tahini (sesame paste). *Food Microbiol.* 42:102–108.
- Al-Nabulsi, A. A., T. M. Osaili, R. R. Shaker, A. N. Olaimat, A. Attlee, M. A. Al-Holy, N. Zein Elabedeen, Z. W. Jaradat, and R. A. Holley. 2013. Survival of *E. coli* O157:H7 and *Listeria innocua* in tahini (sesame paste). *J. Food Agric. Environ.* 11(3-4):303–306.
- Blaylock, M., R. Blackwell, S. Merid, S. Jackson, M. Kotewicz, G. Gopinath, S. L. Ayers, J. Abbott, J. Sabo, L. Ewing, J. Gangiredla, S. Gebru, I. Patel, B. Jones, K. Dudley, K. Jarvis, D. E. Hanes, A. A. Diallo, and J. J.-G. Beaubrun. 2015. Comparison of *Salmonella enterica* serovar Bovismorbificans 2011 hummus outbreak strains with non-outbreak strains. *Food Microbiol.* 46:627–634.
- Brockmann, S. 2001. International outbreak of *Salmonella* Typhimurium DT104 due to contaminated sesame seed products – update from Germany (Baden-Württemberg). *Eurosurveillance* 5(33), 16 August:1699. Available at: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1699>.
- Brockmann, S. O., I. Piechotowski, and P. Kimmig. 2004. *Salmonella* in sesame seed products. *J. Food Prot.* 67:178–180.
- Centers for Disease Control and Prevention. 2012. Multistate outbreak of *Salmonella* serotype Bovismorbificans infections associated with hummus and tahini — United States, 2011.

- MMWR Weekly* 61(46):944–947. Available at:
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6146a3.htm?s_cid=mm6146a3_w.
- Centers for Disease Control and Prevention. 2013. Multistate outbreak of *Salmonella* Montevideo and *Salmonella* Mbandaka infections linked to tahini sesame paste (final update). Available at: <http://www.cdc.gov/salmonella/montevideo-tahini-05-13/>.
- de Jong, B., Y. Andersson, I. S. Fisher, K.-A. O’Grady, and J. Powling. 2001. International outbreak of *Salmonella* Typhimurium DT104—update from Enter-Net. *Eurosurveillance* 5(32), 9 August:1705. Available at:
<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1705>.
- de Jong, B., Y. Andersson, J. Giesecke, L. Hellström, U. Stamer, and R. Wollin. 2001. *Salmonella* Typhimurium outbreak in Sweden from contaminated jars of helva (or halva). *Eurosurveillance* 5(29), 19 July:1715. Available at:
<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1715>.
- European Centre for Disease Prevention and Control. 2017. Cluster of new *Salmonella* serotype cases with antigenic formula 11:z41:enz15 in four EU Member States. Available at:
<http://ecdc.europa.eu/en/publications/Publications/20-mar-2017-RRA-cluster-new-Salmonella-serotypes-four-eu-member-states.pdf>. [sesame-based food products]
- Hwang, H.-J., C.-I. Cheigh, and M.-S. Chung. 2017. Construction of a pilot-scale continuous-flow intense pulsed light system and its efficacy in sterilizing sesame seeds. *Innovative Food Science & Emerging Technologies* 39:1–6.
- Kotzekidou, P. 1998. Microbial stability and fate of *Salmonella* Enteritidis in halva, a low-moisture confection. *J. Food Prot.* 61:181–185.
- Li, Y., and K. R. Schneider. 2016. Microbiological hazard outbreaks in nuts and nuts-related food, p. 63–77. In J. M. Soon, L. Manning, and C. A. Wallace (ed.), *Foodborne diseases: Case studies of outbreaks in the agri-food industries*, CRC Press, Boca Raton, FL.
- Little, C. 2001. International outbreak of *Salmonella* Typhimurium DT104 – update from the United Kingdom. *Eurosurveillance* 5(33), 16 August:1700. Available at:
<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=1700>.
- New Zealand Public Health Surveillance. 2013. Human *Salmonella* isolates, 2012. Available at:
https://surv.esr.cri.nz/enteric_reference/human_salmonella.php?we_objectID=3315.
- O’Grady, K. A., J. Powling, A. Tan, M. Valcanis, D. Lightfoot, J. Gregory, K. Lalor, R. Guy, B. Ingle, R. Andrews, S. Crerar, and R. Stafford. 2001. *Salmonella* Typhimurium DT104 – Australia, Europe. Archive no. 20010822.1980. Available at: <http://www.promedmail.org>.
- Olaimat, A. N., M. A. Al-Holy, M. H. Abu-Ghoush, T. M. Osaili, A. A. Al-Nabulsi, and B. A. Rasco. 2017. Inhibition of *Shigella sonnei* and *Shigella flexneri* in hummus using citric acid and garlic extract. *J. Food Sci.* 82:1908–1915.
- Olaimat, A. N., A. A. Al-Nabulsi, T. M. Osaili, M. Al-Holy, M. M. Ayyash, G. F. Mehyar, Z. W. Jaradat, and M. A. Ghoush. 2017. Survival and inhibition of *Staphylococcus aureus* in commercial and hydrated tahini using acetic and citric acids. *Food Control* 77:179–186.
- Osaili, T. M., and A. Al-Nabulsi. 2016. Inactivation of stressed *Escherichia coli* O157: H7 in tahini (sesame seeds paste) by gamma irradiation. *Food Control* 69:221–226.
- OzFoodNet Working Group. 2003. Foodborne disease in Australia: incidence, notifications and outbreaks. Annual report of the OzFoodNet network, 2002. *Commun. Dis. Intell.* 27(2):209–243. Available at: <http://www.health.gov.au/cdi>.
- Paine, S., C. Thornley, M. Wilson, M. Dufour, K. Sexton, J. Miller, G. King, S. Bell, D. Bandaranayake, and G. Mackereth. 2014. An outbreak of multiple serotypes of *Salmonella* in

- New Zealand linked to consumption of contaminated tahini imported from Turkey. *Foodborne Path. Dis.* 11:887–892.
- Pitt, J. I., A. D. Hocking, K. Bhudhasamai, B. F. Miscamble, K. A. Wheeler, and P. Tanboon-Ek. 1994. The normal mycoflora of commodities from Thailand. 2. Beans, rice, small grains and other commodities. *Int. J. Food Microbiol.* 23:35–53.
- Sengun, I. Y., O. Hancioglu, and M. Karapinar. 2005. Microbiological profile of helva sold at retail markets in Izmir city and the survival of *Staphylococcus aureus* in this product. *Food Control* 16:840–844.
- Tauxe, R. V., S. J. O’Brian, and M. Kirk. 2008. Outbreaks of food-borne diseases related to the international food trade. p. 69–112. In M. P. Doyle, and M. C. Erickson (ed.), *Imported food: Microbiological issues and challenges*. ASM Press, Washington, DC.
- Torlak, E., D. Sert, and P. Serin. 2013. Fate of *Salmonella* during sesame seeds roasting and storage of tahini. *Int. J. Food Microbiol.* 163:214–217.
- Unicomb, L. E., G. Simmons, T. Merritt, J. Gregory, C. Nicol, P. Jelfs, M. Kirk, A. Tan, R. Thomson, J. Adamopoulos, C.L. Little, A. Currie, and C.B. Dalton. 2005. Sesame seed products contaminated with *Salmonella*: three outbreaks associated with tahini. *Epidemiol. Infect.* 133:1065–1072.
- U.S. Food and Drug Administration. 2013. FDA investigation summary – Multistate outbreak of *Salmonella* Montevideo and *Salmonella* Mbandaka linked to Krinos brand tahini sesame paste. Available at: <http://www.fda.gov/Food/RecallsOutbreaksEmergencies/Outbreaks/ucm353566.htm>.
- Van Doren, J. M., D. Kleinmeier, T. S. Hammack, and A. Westerman. 2013. Prevalence, serotype diversity, and antimicrobial resistance of *Salmonella* in imported shipments of spice offered for entry to the United States, FY2007–FY2009. *Food Microbiol.* 34:239–251.
- Van Doren, J. M., R. J. Blodgett, R. Pouillot, A. Westerman, D. Kleinmeier, G. C. Ziobro, Y. Ma, T. S. Hammack, V. Gill, M. F. Muckenfuss, and L. Fabbri. 2013. Prevalence, level and distribution of *Salmonella* in shipments of imported capsicum and sesame seed spice offered for entry to the United States: Observations and modeling results. *Food Microbiol.* 36:149–160.
- Willis, C., C. L. Little, S. Sagoo, E. de Pinna, and J. Threlfall. 2009. Assessment of the microbiological safety of edible dried seeds from retail premises in the United Kingdom with a focus on *Salmonella* spp. *Food Microbiol.* 26:847–852.
- Wuytack, E. Y., A. M. J. Diels, K. Meersseman, and C. W. Michiels. 2003. Decontamination of seeds for seed sprout production by high hydrostatic pressure. *J. Food Prot.* 66:918–923.
- Zhang, Y., S. E. Keller, and E. M. Grasso-Kelley. 2017. Fate of *Salmonella* throughout production and refrigerated storage of tahini. *J. Food Prot.* 80:940–946.

WALNUT

- Amarowicz, R., G. A. Dykes, and R. B. Pegg. 2008. Antibacterial activity of tannin constituents from *Phaseolus vulgaris*, *Fagopyrum esculentum*, *Corylus avellana* and *Juglans nigra*. *Fitoterapia* 79(3):217–219.
- Beuchat, L. R. 1978. Relationship of water activity to moisture content in tree nuts. *J. Food Sci.* 43:754–755, 748.
- Blessington, T., E. J. Mitcham, and L. J. Harris. 2012. Survival of *Salmonella enterica*, *Escherichia coli* O157:H7, and *Listeria monocytogenes* on inoculated walnut kernels during storage. *J. Food Prot.* 75:245–254. doi:10.4315/0362-028X.JFP-11-278

- Blessington, T., E. J. Mitcham, and L. J. Harris. 2014. Growth and survival of *Enterobacteriaceae* and inoculated *Salmonella* on walnut hulls and maturing walnut fruit. *J. Food Prot.* 77:1462–1470. doi:10.4315/0362-028X.JFP-14-075
- Blessington, T., C. G. Theofel, and L. J. Harris. 2013. A dry-inoculation method for nut kernels. *Food Microbiol.* 33:292–297. doi:10.1016/j.fm.2012.09.009
- Blessington, T., C. G. Theofel, E. J. Mitcham, and L. J. Harris. 2013. Survival of foodborne pathogens on inshell walnuts. *Int. J. Food Microbiol.* 166:341–348. Available at: <http://dx.doi.org/10.1016/j.ijfoodmicro.2013.07.016>.
- Canadian Food Inspection Agency. 2011. Certain bulk and prepackaged raw shelled walnuts may contain *E. coli* O157:H7 bacteria. (Health hazard alerts, April 2011.) Available at: <http://www.inspection.gc.ca/about-the-cfia/newsroom/food-recall-warnings/complete-listing/2011-04-04/eng/1359548340145/1359548340176>.
- Canadian Food Inspection Agency. 2011. Certain bulk and prepackaged raw shelled walnuts may contain *E. coli* O157:H7 bacteria. (Health hazard alerts, September 2011.) Available at: <http://www.inspection.gc.ca/about-the-cfia/newsroom/food-recall-warnings/complete-listing/2011-09-06/eng/1357653789938/1357653789969>.
- Davidson, G. R., J. C. Frelka, and L. J. Harris. 2016. Efficacy of peracetic acid–based sprays against microbial loads on conveyors in a walnut hulling facility. *Food Prot. Trends* 36:301–309.
- Davidson, G. R., J. C. Frelka, M. Yang, T. M. Jones, and L. J. Harris. 2015. Prevalence of *Escherichia coli* O157:H7 and *Salmonella* on inshell California walnuts. *J. Food Prot.* 78:1547–1553. doi:10.4315/0362-028X.JFP-15-001
- Fishbein, M., and B. F. Surkiewicz. 1964. Comparison of the recovery of *Escherichia coli* from frozen foods and nutmeats by confirmatory incubation in EC medium at 44.5 and 45.5 C. *Appl. Microbiol.* 12:127–131. Available at: <http://aem.asm.org/content/12/2/127.full.pdf+html>.
- Frelka, J. C. 2013. The influence of postharvest handling practices on the microbiota of English walnuts (*Juglans regia* L.). M.Sc. thesis. University of California, Davis.
- Frelka, J. C., G. R. Davidson, and L. J. Harris. 2016. Changes in aerobic plate and *Escherichia coli*–coliform counts and in populations of inoculated foodborne pathogens on inshell walnuts during storage. *J. Food Prot.* 79:1143–1153. doi:10.4315/0362-028XJFP-15-553
- Frelka, J. C., and L. J. Harris. 2015. Evaluation of microbial loads and the effects of antimicrobial sprays in postharvest handling of California walnuts. *Food Microbiol.* 48:133–142. doi:10.1016/j.fm.2014.10.015
- Ganz, K., and A. Gill. 2013. Inhibition of polymerase chain reaction for the detection of *Escherichia coli* O157:H7 and *Salmonella enterica* on walnut kernels. *Food Microbiol.* 35:15–20.
- Jeong, S., B. P. Marks, E. T. Ryser, and J. B. Harte. 2012. The effect of X-ray irradiation on *Salmonella* inactivation and sensory quality of almonds and walnuts as a function of water activity. *Int. J. Food Microbiol.* 153:365–371. Available at: <http://dx.doi.org/10.1016/j.ijfoodmicro.2011.11.028>.
- Kokal, D. 1965. Viability of *Escherichia coli* on English walnut meats (*Juglans regia*). *J. Food Sci.* 30:325–332.
- Little, C. L., W. Jemmott, S. Surman-Lee, L. Hucklesby, and E. de Pinna. 2009. Assessment of microbiological safety of edible roasted nut kernels on retail sale in England, with a focus on *Salmonella*. *J. Food Prot.* 72:853–855.

- Little, C. L., N. Rawal, E. de Pinna, and J. McLauchlin. 2010. Survey of *Salmonella* contamination of edible nut kernels on retail sale in the UK. *Food Microbiol.* 27:171–174.
- McNeil, D. L. 2013. Improving the quality and safety of walnuts, p. 245–273. In L. J. Harris (ed.), *Improving the safety and quality of nuts*. Woodhead Publishing Ltd., Cambridge, UK.
- Meyer, M. T., and R. H. Vaughn. 1969. Incidence of *Escherichia coli* in black walnut meats. *Appl. Microbiol.* 18:925–931. Available at: <http://aem.asm.org/content/18/5/925.full.pdf+html>.
- Mozola, M. A., X. Peng, M. Wendorf, and L. Artiga. 2007. Evaluation of the GeneQuence® DNA hybridization method in conjunction with 24-hour enrichment protocols for detection of *Salmonella* spp. in select foods: collaborative study. *J. AOAC Int.* 90(3):738–755.
- Riyaz-UI-Hassan, S., V. Verma, A. Malik, and G. N. Qazi. 2003. Microbiological quality of walnut kernels and apple juice concentrate. *World J. Microbiol. Biotechnol.* 19:845–850.
- Salazar, F., S. Garcia, M. Lagunas-Solar, Z. Pan, and J. Cullor. 2017. Efficacy of a heat-spray and heat-double spray process on inoculated nuts with *Salmonella enteritidis* ATCC 1045. *Food Control* 81:74–79. [almonds, pecans, pistachios, walnuts]
- Stevenson, K. E., and G. K. York. 1969. Reprocessing of black walnut kernels. *Food Technol.* 24(6):85.
- Wehner, F. C., and C. J. Rabie. 1970. The micro-organisms in nuts and dried fruits. *Phytophylactica* 2:165–170.
- Wilson-Kakashita, G., D. L. Geredes, and W. R. Hall. 1995. The effect of gamma irradiation on the quality of English walnuts (*Juglans regia*). *LWT – Food Sci. Technol.* 28:17–20.
- Zhang, G., L. Hu, D. Melka, H. Wang, A. Laasri, E. W. Brown, E. Strain, M. Allard, V. K. Bunning, S. M. Musser, R. Johnson, S. M. Santillana Farakos, V. N. Scott, R. Pouillot, J. M. Van Doren, and T. S. Hammack. 2017. Prevalence of *Salmonella* in cashews, hazelnuts, macadamia nuts, pecans, pine nuts, and walnuts in the United States. *J. Food Prot.* 80:459–466. Available at: <http://www.jfoodprotection.org/doi/pdf/10.4315/0362-028X.JFP-16-396>.
- Zhang, L., and S. Wang. 2017. Bacterial community diversity on in-shell walnut surfaces from six representative provinces in China. *Scientific Reports* 7:10054. Available at: <https://www.nature.com/articles/s41598-017-10138-y>.