

Salmonella Enteritidis

Background: *Salmonella enterica* subsp. *enterica* serovar Enteritidis (antigenic formula 1,9,12:g,m:-) is a polyphyletic serovar of the O:9 (D₁) serogroup. This serovar is associated with table [eggs and chickens](#). Serovar Enteritidis has caused numerous outbreaks associated with the consumption of [contaminated eggs](#). *S. Enteritidis* can successfully contaminate eggs because it is adapted to the reproductive organ of laying hens. This serovar is further classified according to the susceptibility to typing phages (phage typing (PT)), the most common PTs are PT8 and PT4. Molecular subtyping with Pulse field gel electrophoresis (PFGE) shows that approx. 40% of the isolates fall in the same PFGE type. [Invasive](#) strains of *S. Enteritidis* emerged in sub-Saharan regions of Africa and have caused systemic salmonellosis in travelers returning from Africa.

Serovar *S. Nitra* shares the same serotype, although it is very rare and is [genetically indistinguishable](#) from *S. Enteritidis*.

Animal reservoir: Chicken is the main reservoir. *S. Enteritidis* is also found in low percentage (<1%) in turkey and cattle.

Geographical distribution: The distribution of serovar Enteritidis is global; according to the World Health Organization, it is the most common serovar reported from human salmonellosis cases in Europe, North and South America, Africa and Asia.

Outbreaks: Numerous outbreaks have been associated with serovar Enteritidis. Here we mention the latest outbreaks caused by this serovar.

Year	Location	Associated source	Number of cases
2018	US-multistate	Eggs	44
2016	Multi-country*	Eggs	112**
2012	US-multistate	Ground beef	46
2012	US-multistate	Restaurant chain A	68
2011	US-multistate	Turkish Pine Nuts	43
2011	US-multistate	Alfalfa Sprouts and Spicy Sprouts	25
2011	England	eggs	63
2011	Singapore	Seafood Marinara Pasta Seafood	270
2010	US-multistate	Shell- eggs	1,939
2010	Austria	eggs	66

*Belgium, Denmark, Luxembourg, the Netherlands, Norway, Sweden and the UK, and potentially Croatia

**112 confirmed, 148 probable

-

Recalls and Border Rejections:

Year	Exporting Country	Country Issuing Recall/Rejection	Food
2019	Poland	Czech Republic	Chilled Beef
2019	Sudan	Greece	Sesame Seeds

Relevant links and references:

1. <http://www.ncbi.nlm.nih.gov/pubmed/19207743>
2. <http://www.ncbi.nlm.nih.gov/pubmed/1757554>
3. http://www.cdc.gov/nczved/divisions/dfbmd/diseases/salmonella_enteritidis/
4. <https://www.efsa.europa.eu/en/supporting/pub/1110e>
5. https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Polish%20Eggs%20traced-back%20for%20across%20Europe%20outbreak%20of%20Salmonella._Warsaw_Poland_11-7-2016.pdf
6. <https://www.cdc.gov/salmonella/enteritidis-09-18/index.html>
7. <http://analytics.foodtrack.net/cgi-bin/read?rid=MjAxOTAyMjExMzQ0Rk9PRFRSQ0tCVUxMRVRTXzAyMjExOUw0MjY=&style=html&source=email>