

CLASSIFICATION BRIEF



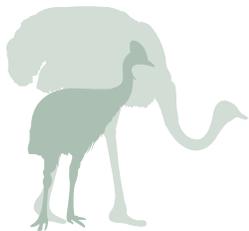
EGG-TYPE CHICKENS



MEAT-TYPE CHICKENS



TURKEYS



OSTRICHES, EMUS, RHEAS,
AND CASSOWARIES



WATERFOWL, EXHIBITION
AND GAME BIRDS



HUMAN HEALTH
SIGNIFICANCE



Salmonella Enteritidis

NPIP Classifications

U.S. S. Enteritidis Clean

Availability: *Primary Egg and Meat-type Chicken Breeding Flocks and Products, Multiplier Egg Type Chicken Flocks*

Etiology

Salmonella enteritidis is a gram negative rod bacteria belonging to the family *Enterobacteriaceae*. The complete scientific name is *Salmonella enterica* serotype Enteritidis, but it is commonly referred to as *Salmonella* Enteritidis. *Salmonella* Enteritidis rarely causes significant disease in poultry.

Species Affected and Zoonotic Potential

Salmonella enteritidis is of primary concern in chickens; especially laying birds, which can lay infected eggs. Humans can become infected when they ingest raw or undercooked eggs or egg products, poultry meat from infected hens, or other contaminated food products.

Geographic Distribution

Salmonella Enteritidis is distributed worldwide.

Transmission

Salmonella Enteritidis can be transmitted horizontally and vertically. Horizontal transmission can occur via contact with infected birds, ingestion of contaminated feed, or through environmental sources. Rodents can be significant sources of environmental contamination. Vertical transmission of the organism occurs through eggshell contamination and also through transovarial transmission.

Clinical Signs

Generally uncommon in poultry. Very young birds may die rapidly with no signs. Signs can be seen in very young poultry.

Prevention and Control

Prevention and control of *Salmonella* Enteritidis requires a multifaceted management plan. Eggs and chicks should be purchased from *Salmonella* free breeding flocks. Hatching eggs should be disinfected and hatched according to strict biosecurity practices. Good sanitation and biosecurity practices must be implemented and maintained in poultry houses to prevent the introduction and spread of the disease. The NPIP has instituted sanitation and testing standards for breeder flocks aimed at preventing the transmission of *Salmonella* Enteritidis laying stock.

Diagnosis and Testing

Diagnosis is based on isolation and identification of the organism. Serologic testing may aid in the diagnosis of the disease, but a preliminary diagnosis should be confirmed by isolation of the organism.

Testing Requirements

The testing and monitoring requirements for this classification are more complex than for the other classifications.

Feed given to the flock that contains animal protein must be produced under the Animal Protein Products Industry *Salmonella* Education/Reduction Program. The feed pellets must be heat treated in specific ways to reduce the likelihood *Salmonella* will be present.

There are specific rules for sanitation and rodent/pest control.

Eggs are to be collected promptly and must be sanitized or fumigated in the prescribed manner.

There is a *Salmonella* vaccine that can be used in flocks and blood testing protocols will vary depending on whether the flock is to be vaccinated.

Environmental samples must be collected for bacterial culturing in specific ways generally every 30 days. Samples include manure swabs, cloacal swabs, chick box papers, or floor litter. All *Salmonellae* that are cultured must be serogrouped or serotyped.

Approved Tests

Official blood tests include testing with either pullorum antigen or a federally licensed *Salmonella enteritidis* enzyme-linked immunosorbent assay. Bacterial culturing and sampling must be done in specified ways.

Reference

- Merck Veterinary Manual on-line edition <http://www.merckvetmanual.com/> Accessed June 2, 2012.
- Saif, Y.M, et al., *Diseases of Poultry*, 12th ed. Blackwell Publishing, Ames, IA, 2008.

This information was developed by staff veterinarians at the CFSPH and approved by APHIS for use as training materials for the USDA APHIS National Veterinary Accreditation Program.

