



New York State Cattle Health Assurance Program  
Salmonellosis Module  
*An Introduction to Salmonellosis*

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Salmonellosis is an infection of the digestive tract by the bacterium, *Salmonella enterica*. *Salmonella* is widespread and can be found on many dairy farms and in many species of animals, including mammals, birds, insects, reptiles and humans. This bacterium usually infects an animal when its immune system is suppressed or when it is exposed to high doses of the organism.

Both clinical outbreaks and subclinical infections of *Salmonella* can drain profit from the dairy operation. *Salmonella* infection in a dairy herd can lead to losses from:

- milk production decline
- death in any age group of livestock
- abortions
- treatment costs
- losses from antibiotic contaminated milk
- increased culling
- increased cost due to delayed culling while antibiotic residues clear
- increased labor for management of sick animals
- reduced feed efficiency
- the inability to sell animals originating from an “infected” herd

*Salmonella* infection is also a significant public health risk to farm families, employees and visitors. Outbreaks of this disease often occur after episodes of flooding or runoff, when cattle feed or equipment is contaminated with flood waters carrying the organism.

*Salmonella* is a highly contagious bacteria that spreads primarily when animals consume contaminated feed or water. Cows, birds and rodents shed large numbers of *Salmonella* during the clinical stage of disease and readily contaminate their surroundings, including feed, water troughs, barnyards, feeding equipment and people who work around them. Most of the

bacteria are shed in the feces, but when systemic illness develops, the organism is also shed in saliva, nasal secretions, urine, and milk.

Some animals, upon recovery, become carriers and continue to shed organisms for many months. They may show no more outward signs of the disease but are a continuing source of *Salmonella* contamination.

Salmonellosis is often seen as an acute disease, usually starting with a high fever (103-106 degrees), that progresses to serious diarrhea, which often contains blood and is foul smelling. The affected animal becomes dehydrated and depressed, and may die. Your veterinarian should become involved as soon as this disease is suspected.

Treatment of salmonellosis with antibiotics is seldom effective by itself, especially if the disease has progressed to the diarrheal stage. The most effective treatment of the sick cow is primarily by supportive therapy, such as oral or IV electrolytes and fluids.

Prevention requires a complete program to minimize exposure of animals and maximize resistance to the organism. All employees with access to animals need to understand and participate in the prevention program.

### **Salmonella Critical Control Points**

#### Minimize exposure to Salmonella

- Place new arrivals in isolation for at least two weeks.
- Isolate sick animals immediately. Handle them last.
- Do not allow rendering trucks near the barn, feed, or animals.
- Provide clean, dry, single use calving pens. Remove calves from dams as soon as

possible.

- Do not feed waste milk to calves.
- Minimize the use of common equipment between groups.
- Sanitize and disinfect equipment used between animals, including water or milk pails, feeders, nipple bottles and oral medication equipment.
- Avoid walking across feed with manure covered boots.
- Prevent contamination of feeds and water sources by feces (cattle, birds, rodents, pets, and wild animals).
- Use feeds from dealers that have excellent rodent and bird control programs in place.
- Clean manure from tires before driving in feedbunks or feed storage areas. Do not use the same equipment for handling manure or dead animals and feed.
- Prevent opportunities for flooding of manure laden areas.
- If possible, store manure at least 60 days in the summer, and 90 days in the winter
- Spread manure on crop rather than grazing land.

#### Maximizing animal resistance to Salmonella

- Prevent herd stresses, such as excessive heat and overcrowding.
- Aggressively monitor and treat fresh and sick animals.
- Provide good cow comfort.
- Prevent sudden feed changes.
- Maximize feed intake in the periparturient period.
  - Maintain adequate fiber intake.
  - Prevent overconditioning in the dry period.
- Implement a sound general herd vaccination program.

#### **The NYSCHAP Salmonella Module**

NYSCHAP can help identify the risks for Salmonella introduction and spread on NY dairy farms. Working with the herd veterinarian and farm managers, the Agriculture and Markets Field Veterinarian will help develop a herd plan to address and prevent these risks. By writing out the farm plan and assigning responsibility for the specific practices to farm personnel, the program increases the likelihood that the preventative practices will be implemented and

progress will be made toward the farm's *Salmonella* control goals.

#### **How to Enroll in NYSCHAP**

To enroll in NYSCHAP, contact your herd veterinarian. They will then make arrangements with the regional field veterinarian from the Department of Agriculture and Markets. For additional information, contact one of the sources below:

- Enrolling or contacting a state field veterinarian, call NYS Division of Animal Industry at 518-457-3502.
- Diagnostic testing services or information, call the Diagnostic Lab at Cornell University, 607-253-3900.
- Mastitis testing or information, call Quality Milk Promotion Services at 607-255-8202.
- Additional NYSCHAP information, contact the NYSCHAP coordinator at 607-255-8202.
- Visit the NYSCHAP website at: <http://nyschap.vet.cornell.edu> or email us at [nyschap@cornell.edu](mailto:nyschap@cornell.edu).