

***Salmonella Module Risk Assessment Guide***

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| Risk Factors | Risk Information* Informational Statement
* Intervention tactic
 | Risk factors on this farm (level of implementation)  | FarmFeasibilityY,N |
| 1. **Biosecurity**
* Contact with non-resident cattle and other livestock
* Resident Cattle & Calves
* Pets and pests
* Equipment
 | * Contact with non-resident livestock creates a risk for salmonella introduction into the herd
* Avoid opportunities for fence-line contact with neighboring livestock
* Do not commingle animals from different farms on pasture.
* Isolate introduced livestock for 2 weeks.
* Salmonella is easily spread between groups of resident cattle. Calves are a critical/frequent group at risk.
* Clean equipment, clothes and boots *between all* groups, particularly when entering or leaving calf housing
* Isolate sick cows and calves, handle them last
* Aggressively monitor and treat fresh and sick cattle
* Do not feed waste milk from sick cows to calves
* Maximize colostrum intake and quality for calves
* Maximize feed intake in the periparturient period.
* Pets and pests and waterfowl can carry salmonella.
* Restrict pet, rodent and bird access to stored feeds and feedbunks
* Implement rodent and bird control program
* Remove dead pests from feeds as soon as detected
* Equipment can be a means of transmitting Salmonella around the farm and between farms
* Equipment, and vehicles should be cleaned between groups of animals
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| **2.) Manure Management** * Salmonella exposure
 | * Manure may contain salmonella.
	+ Restrict access to surface water (originating either on or off-farm) which may contain manure.
	+ Allow 30 days between spreading manure on pasture and grazing or between spreading on crops and harvest
	+ Prevent manure runoff throughout all facilities.
	+ Avoid tracking of manure through facilities on equipment, vehicles and boots
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| **3.) Feed Management*** Contamination
 | * Feeds can become contaminated with salmonella in the feedmill or on the farm.
* Feeding equipment, particularly calf feeding buckets and bottles, should be washed between uses
* Do not use the same equipment for feed and manure
	+ - Ask feed suppliers about quality and pest control in their mills, storage and transport
		- Avoid feed contamination by runoff, human, or equipment traffic or animals
		- Do not use manure byproducts (solids) in cattle feeds
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| **4.) Water Management*** Contamination
 | * + - * Water can become contaminated with salmonella from many sources
				+ Protect well heads from manure and septic runoff
				+ Restrict cattle access to surface water sources
				+ Restrict cattle access to flooded barnyards or lots
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| **5.) Facilities*** Spread of salmonella
 | * Avoid walking across feed
* Manure laden water may contain salmonella
	+ Provide good drainage to reduce puddling and build up of water in cattle areas eg, silage effluent, flush water, rainwater runoff
* Wash and disinfect calf housing between calves to break cycle of salmonella growth
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| **6.) Quality Assurance*** Antimicrobial usage
* Culling cows
 | * Use of antimicrobials can increase resistance of salmonella and decrease competitive flora
	+ Minimize use of fed antimicrobials
	+ Always follow label directions when using antimicrobials
* Non-ambulatory cows shed more salmonella
* Cull cows in a timely fashion, before they go down
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| 1. **Public Health**
* Salmonella can infect humans
 | * Salmonella can infect farm families; especially young children and the elderly.
	+ Hands should be washed well, using soap and warm water and scrubbing for 15 seconds, before returning to the household.
	+ Outer garments and footwear exposed to infected animals and their discharges should not be brought into the household.
	+ Do not drink raw milk.
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