Supplement 2: Checklist *Salmonella* spp. in eggs

**Area A:** Population of interest

* Study design, study question
	+ What is the objective of the study?
	+ Which population should be studied?
	+ What is the statistical unit? A single egg, an egg carton or other?
	+ What is the assumed status of the population? Positive, negative?
* Statistical hypothesis to be tested
	+ Is the population of interest free from *Salmonella* spp.?
* Batch, Lot
	+ What is the manufacturer's batch definition?
	+ Does it make sense to adopt this definition? If not, how is the definition usefully adapted?
	+ What is the production volume of eggs?
	+ Which parts of the produced eggs are relevant for the investigation?
* Stratification of population
	+ Is the chance of being contaminated the same for all eggs?
	+ If no homogeneous distribution can be assumed, does the definition of the batch or statistical unit need to be adjusted?
	+ Is it possible to take this into account through the form of sampling in the study?

**Area B:** Food item / Matrix

* Background
	+ Which eggs are still available and can be examined?
	+ Are there any reserve samples?
* Characteristics
	+ Are the eggs clean?
	+ Are the eggs being cleaned?
	+ What temperature are the eggs?
* Production technique
	+ In which housing system are the hens kept?
	+ What is the production process?
	+ How does the flow of goods look like?
	+ How are the eggs collected?
	+ How many times a day are eggs collected?
	+ How are the eggs sorted?
	+ How are the eggs packed?
	+ What type of packaging is used?
	+ Is new packaging used? If packaging is reused, is this done with or without disinfection?
	+ How are the eggs stored?
	+ Where are they stored (separation from hens, etc.)?
	+ How are eggs unfit for human consumption disposed of?
	+ Which places are potentially critical for pathogens to enter? (HACCP)
	+ In which period of time can the suspect food have been contaminated with the agent? (Production period)
	+ Could other batches also be contaminated?
* Traceability
	+ When was the product produced?
	+ Is it possible to trace the eggs back through the production chain to their origin (e.g. to separated stables)?
	+ Can the further course of the eggs be traced?
	+ Can all the information be tracked?
		- Labelling (name, best before date, batch number...)
* Buisness information
	+ What is the size of the business?
	+ What is the company structure and business processes?
	+ How many employees are there?
	+ Does the business have any certifications etc.?
	+ What investigations are carried out by the business?
	+ What are the eggs tested for in the laboratory and how often?
	+ Are there any previous findings? If so, which serotypes were detected?
	+ Which hygiene concepts are there? HACCP?
	+ What are the cleaning and disinfection plans?
	+ Are the hens vaccinated?

**Area C:** Pathogen

* Characteristics
	+ Does *Salmonella* spp. produce toxins?
* Distribution in matrix
	+ Does *Salmonella* spp. distribute evenly in the eggs?
* Contagiousness
	+ How dangerous is *Salmonella* spp. for humans?
	+ Is a risk assessment possible?
	+ What is the infectious dose of *Salmonella* spp.?
* Epidemiology
	+ How widespread is *Salmonella* spp.?
	+ Where does *Salmonella* spp. occur?
	+ How often does *Salmonella* spp. occur in the matrix?
* Microbiology
	+ What is the growth optimum of *Salmonella* spp.?
	+ How long does *Salmonella* spp. deliberate in the environment?

**Area D:** Laboratory analysis / Detection method

* Method
	+ Which method is suitable for detection?
	+ Which method is used by the laboratory to which the sample was sent?
* Sensitivity
	+ How accurate is the test procedure? Are there any findings on this?
* Specificity
	+ How accurate is the test procedure? Are there any findings on this?

**Area E:** Legal regulations

* General
	+ Which legal regulations apply?
	+ What can be investigated and admonished?
	+ What action will be taken (e.g. in case of detection)?
* Responsibilities
	+ Who is responsible?
	+ What instructions and flow charts are there?
* Sampling
	+ Are there mandatory sampling procedures?
	+ If so, how must the samples be taken? (Number, location, technique, type, product...)
	+ Do counter or duplicate samples have to be taken?
* Detection method
	+ Is there a legal regulation that prescribes a certain detection method?
	+ If so, which one is prescribed?
* Limit (values)
	+ Can all *Samonella* species be classified as human pathogenic?
	+ Are there legally prescribed limit values? If so, which ones and how high?

**Area F:** Veterinary administration

* Staff capacity
	+ What can the veterinary authority contribute?
	+ Which sample sizes are to be supported?
* Financial capacity
	+ What can the veterinary authority contribute?
	+ Which sample sizes are to be supported?

**Area G:** Statistical parameters

* Calculation method
	+ What is the professional core question?
	+ A: Concept of state freedom from an event
	+ B: Concept of calculating a confidence interval (CI)
* Statistical errors
	+ What inaccuracy can be accepted?
	+ Alpha
* Effect size
	+ Absolute error delta
* Prevalence (limit) or acceptance number
	+ What prevalence can be assumed from a professional point of view?
	+ What is the maximum number of nonconforming units or the maximum number of nonconformities allowed in the sample?