Salmonella Protocol Policy

as amended February 12, 2014

INTRODUCTION:

Following the identification of intact shell eggs as a possible source of *Salmonella enteritidis* (S.e.) in cases of human food poisoning in the 1980's, egg industries worldwide became sensitized to the potential consequences to consumers and their confidence in the safety of table eggs. While the most publicized incidents occurred in the US and the UK, Canada had its share with the occasional restaurant and food service outbreak.

In 1994, Egg Farmers of Ontario began a voluntary program of environmental testing for S.e. using protocols developed in concert with Agriculture and AgriFood Canada, later the Canadian Food Inspection Agency and Health Canada. Approximately two thirds of the producers participated in this voluntary phase. In 1996, the program was made compulsory for all producers by making the test a condition of holding egg quota. In 1998, premises where pullets were grown were also included for the first time.

The laboratory protocol for the first six (6) years used the established Health Canada techniques, or an approved modification of them, to detect all Salmonella serotypes. If Salmonella is detected at this stage, a test follows to determine to which Group the organism belongs. If it proves to be Group D, which contains S.e., full serotyping is carried out.

The incidence of S.e. has always been very low, with only twelve farms being identified as environmentally contaminated, since 2001.

Because of the difficulties of testing egg samples, and the knowledge that S.e. incidence in eggs, even from infected flocks, is very low (<1/1000 eggs) we have never routinely tested eggs for S.e.; neither have we tested the hens themselves.

PROCEDURE: ON-FARM SAMPLING

The procedure for on-farm sampling has been reviewed periodically by officials from CFIA and Health Canada. Current cost to test a barn starts at $85.00, and more than 500 layer and pullet barns are tested each year.

On-farm sampling is conducted by EFO Inspectors. The target is to sample each layer flock once before 35 weeks of age & once after 35 weeks of age. In the case of farms with more than one flock, a separate kit is used to sample each flock.

If a pullet or layer facility is changing species (does not include pullets to layers or vice versa), a negative SE test must be received before the chicks or pullets are housed. For example, a test must be done if the barn housed turkeys or pigs (etc.) and is now planned to be used for raising pullets or laying hens.

Pullet flocks are sampled at about 10 weeks of age unless the grower requests the test earlier. A few pullet growers conduct their own tests when chicks are received.

Sample test kits are provided by the testing laboratory. Each kit consists of five (5) sterile pre-buffered swabs contained in five (5) whirlpack bags.

SALMONELLA PROTOCOL POLICY CONTINUED

At the farm, the following procedure takes place:

1. Separate gloves are worn for each sample.
2. The bag is opened and the swab is removed.
3. The operator holds the swab and takes samples (by wiping an area of about 10 cm2) at ten different locations on the barn walls – or other areas, as determined by the Inspector.
4. Steps 1 and 2 are repeated and samples taken from the floor, ventilation system (fans), egg belts or roll-out, and manure or any other suitable areas.
5. In total, 50 sites are sampled on the five composite samples.
6. When each swab has been taken from the ten sites, it is enclosed in the bag and then sealed.
7. The five bags containing the swabs are enclosed in an envelope and shipped overnight to the laboratory or dropped off directly at the lab.

PROCEDURE: LABORATORY

The laboratory is responsible for tracking and testing the samples. A full description of their procedure is available from Dr. Susan Chu. The samples are tested using the IMS procedure. Any which are positive are further tested by culture. There are three possible outcomes from the testing:

• Negative -

No response. The producer is informed by mail of the result.

• Salmonella positive, not S.e. -

The producer is informed of the result via mail and it is explained that while the existence of any Salmonella is cause for concern, this does not necessitate the response that S.e. would provoke.

• Salmonella enteritidis positive -

Layers:

The producer is contacted immediately by telephone. In the case of an egg producer, arrangements are made to divert all eggs from the affected flock to a breaker for further processing and pasteurization, if the eggs are needed for industrial product. If not, the flock is depopulated as soon as possible. This is done under the EFO Industrial Product program and the producer does not suffer any financial consequences. EFO informs the CFIA of a S.e. positive finding. The producer is advised to undertake an intensive clean-up and disinfection of the premises following depopulation, and EFO Inspectors test the premises after this is completed. If S.e. is found, additional cleaning & disinfection procedures must be taken. A negative test must be received before pullets can be placed. It is recommended that at least a month of downtime be set aside to complete the above activities. An additional environmental sample is taken following placement of the new flock, for a total of three *tests for that flock.*

Pullets:

In the case of a pullet flock environment found to be S.e. positive, the pullet grower is informed immediately by telephone. If the grower is not the owner, he/she is responsible for informing the owner or contractor. Pullets in the premises are normally slaughtered as soon as possible following the identification of S.e. in the environment.

Intensive clean-up and disinfection of the affected premises must be undertaken in the same way as for layer housing. A negative test result must be received before new chicks can be housed. A second SE test will be done for this flock: test 1 at 5-10 weeks and test 2 at 10+ weeks of age.

PIE Insurance Program:
When a layer or pullet flock tests positive, PIE is notified. PIE is a self-insurance program to cover any costs or losses when a flock tests positive. It will cover the cost of egg diversion or income losses if the flock is depopulated.

RESPONSIBILITY:
While Egg Farmers of Ontario administers the testing program and assists producers with Salmonella contamination, it cannot and does not accept any responsibility for the testing, the clean-up or any eggs marketed from contaminated flocks. Producers are reminded that maintaining Salmonella-free egg production is the producer's responsibility.