

December 23, 2020

VIA EMAIL

Hatching Egg Producers and Stakeholders

Dear Stakeholders,

**Follow Up re: Salmonella Enteritidis Testing Framework Implementation Update**

The management of Salmonella Enteritidis (SE) has become increasingly critical for all stakeholders in the BC chicken industry. The Canadian Food Inspection Agency and national and provincial health authorities have stressed the importance of taking appropriate measures. Canadian Hatching Egg Producers (CHEP) has approved a national SE protocol for hatching eggs and, as well, the BC Egg Hatchery Association (EHA) submitted a proposal for BC.

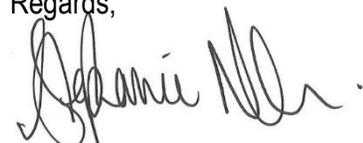
In response, BC Broiler Hatching Egg Commission staff conducted an initial review of the CHEP and EHA proposals as well as more established testing guidelines from other agencies and other provinces as a baseline for their review. Commission staff consolidated the results of that review into a discussion document outlining a potential SE testing framework for BC and circulated for stakeholder comments on June 30, 2020.

As a result of stakeholder concerns raised in that review, the Commission hired Dr. J. Pritchard, retired Chief Veterinary Officer for the province, to review the draft BC framework and provide her recommendations. Her familiarity with the both the SE challenge in BC and the hatching egg sector was invaluable to the development of the attached framework.

The Commission has reviewed the attached SE testing framework implementation document in concert with Dr. Pritchard's recommendations and has authorized implementation plans to proceed into January 2021. The BC framework and Dr. Pritchard's report are attached to this package for your review. This framework will also be discussed at an upcoming Commission meeting with producers to be scheduled in January. As noted in the framework, the Commission anticipates a year-long implementation process to ensure that both identified and non-identified risk gaps are carefully considered. Having an effective mitigation program in place and reducing SE prevalence will assist in identifying the best SE insurance option for BC.

Please contact me directly with any questions or concerns.

Regards,



Stephanie Nelson,  
Executive Director

cc: BC Hatching Egg Producers  
Kirsten Pedersen, BCFIRB  
Ryan Whitmore, BCEHA  
Bryan Brandsma, BCBHEPA  
Dale Krahn, BCCGA  
Bill Vanderspek, BCCMB  
Harvey Sasaki, BCCMB  
Jim Byrne, PPAC  
Drew Black, CHEP  
Commission website

October 2020

# Recommendation on moving forward with updating the on-farm testing protocols for Salmonella

Prepared for the BC Broiler Hatching Egg Commission

By

Dr. Jane Pritchard BA, DVM, MVetSc

## **Recommendation on moving forward with updating the on-farm testing protocols for Salmonella**

### **Summary**

1. The current goal of this work is to reduce Salmonella Enteritidis (SE). Until such time as SE levels are lower, the BCBHEC resources should be focused on just SE. Pursuing other serotypes of Salmonella (C<sub>2</sub> C<sub>3</sub>) is distracting and may be counterproductive as is speculated with Salmonella Kentucky. It is strongly recommended to engage in discussions with the testing laboratories to change their approach to only reporting and serotyping SE. This would move the test request from general Salmonella culture to SE culture and the results would either be SE positive or negative. This change would be beneficial for the Commission and the lab as time taken to pursue non D1 serogroups of Salmonella would be saved
2. There are some refinements in the SOP's that I have suggested under Discussion that would improve recovery of SE. Finding SE as early as possible, if it is there, is clearly very important.
3. Clarity in roles and responsibilities of all stakeholders is needed and I suggest adopting those developed by the Alberta Egg Hatching Egg Producers as a starting point draft. A facilitated meeting with spokespersons for each of the groups of stakeholders; hatcheries, veterinarians, producers and BCBHEC to review and modify the Alberta based draft as necessary would be beneficial followed by a final meeting of spokespersons from each group to look at adaption of the policy

The best way to prevent SE getting into food in BC is to not allow it on the farm and so the control of SE in the hatchery is critical. Hatchery testing is the only government mandated testing for Salmonella in place in Canada but this is only every 6 weeks. This translates to the need for testing to be focused in the Broiler Breeder industry as there are gaps at the hatchery level that continue to allow SE to move onto the farm.

These recommendations are focused on updating the on-farm testing protocols for Salmonella for the BC broiler hatching egg industry. It needs to be stated though that without hatchery cooperation success in controlling SE in any significant way will be challenging.

### **Method**

In preparing this recommendation I am listing the documents that were supplied and reviewed below:

1. Letter from the Egg Hatchery Association (EHA) with a recommendation on improvements to the on-farm testing
2. White paper document created by staff and identifying risks for stakeholder feedback
3. Back up documents from CFC, EFC and CHEP using their existing programs and incorporating some of the EHA suggestions
4. BCCMB response to the white paper
5. BCBHEPA response to the white paper

6. The Standard Operating Procedures for collecting samples to the private vets for comment.
7. The SOPS #1- #5 and the comments from Neil Ambrose on #2 & #5 and CPC

In addition a review of current scientific literature and the approaches and methods used in the US as well as the EU. I also consulted with the Animal Health Laboratory in Abbotsford for further clarification on any issues that might be impeding processing samples with on-farm testing and the timeliness of resulting of these submissions.

## **Discussion**

A focus on knowing early if SE is on a farm, and communicating that information appropriately and in a timely manner can only improve the control of SE.

Suggested improvements:

- Encourage consistent sampling methods across all parties with independent auditing or cross-training.
- Use sterile buffered peptone water (BPW) over distilled water for all samples to keep them moist and preserve viability of Salmonella
- Move to commercial environmental poultry salmonella sampling booties (envirobooties) over sterile stockinette to provide increased absorbency and insure sterility of product.
- Discussions should take place with the lab on improving the dust culture process. Currently it very challenging to have a culture sample that represents the whole amount collected. The organism may be on one speck that is missed. Diluting the sample with BPW would enhance recovery but due to the large sample size received it renders the sample less compliant as it turns to 'mud'. Suggestions would be to either move to 2 environmental sponges being used to collect dust throughout the same areas, or to collect a smaller amount of dust (only 2 grams are sampled for culture) so that dilution with BPW would be possible. Discuss this with the lab to reach consensus on optimizing this process.
- Use the established procedure of using enviro sponges to sample day-old chick papers to maximize the ability to recover SE.
- Encourage more use and reporting of discretionary testing being carried out at the hatcheries
- Encourage faster and broader retesting after fluff positives within the hatcheries
- Establish supported reporting of all positives across all stakeholders
- Engage the laboratories to discuss changing reporting structures to allow moving to a SE focus (reporting just SE positive or negative) and to allow laboratories to communicate results with standardized protocols across all stakeholders. (Communication of positives and negatives, etc.)

**Salmonella Enteritidis (SE) Discussion Document for Stakeholder Review and Comment**  
**BC Broiler Hatching Egg Commission (BCBHEC)**  
**December 17, 2020**

**1. Objective**

To update the BC Broiler Hatching Egg Commission's (the Commission) testing protocols in the Salmonella Enteritidis (SE) program to reduce the prevalence of SE in BC.

Stakeholder Impact Matrix:

Stakeholder	Interest	Influence	Involvement	Impact	Communication Level:
1. Producers	high	high	high	high	Regular updates and engagement
2. Hatcheries	high	high	high	high	Regular updates and engagement
3. Processors	low	high	low	high	Monitor through hatchery engagement
4. National Agency	high	low	low	high	Manage broadly
5. BC Chicken Marketing Board and Growers' Association	low	low	low	low	Manage broadly
6. Provincial government	low	low	low	low	Manage broadly

**2. Background**

The hatching egg sector has battled SE since early 2008, when a phage-type known as PT-13 was introduced into the domestic supply chain by imported product at the hatchery level. Since that point in time, many SE prevalence challenges have arisen, and the Commission has mitigated those risks through testing and protocol development. SE follow up fluff sampling began in 2009, on-farm egg sales were banned in 2010, a third-party rodent audit of all premises took place in 2012 and a post-positive C&D protocol instituted in 2013. Hatching egg producers have paid the costs associated with these projects and the mitigation strategies necessary when a positive flock is identified. Hatcheries have reported absorbing costs for claims when SE causes high mortality on broiler farms and expenses associated

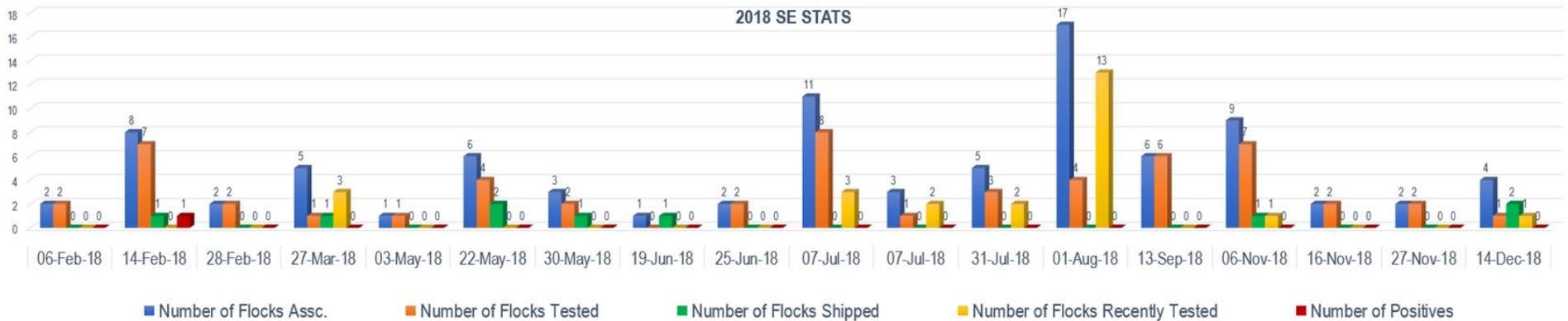
with SE cleaning and disinfecting protocols at the hatchery. Overall, the sector recognizes both the costs associated with SE positive flocks and acknowledges the risks to the supply chain.

### 3. What is known about SE

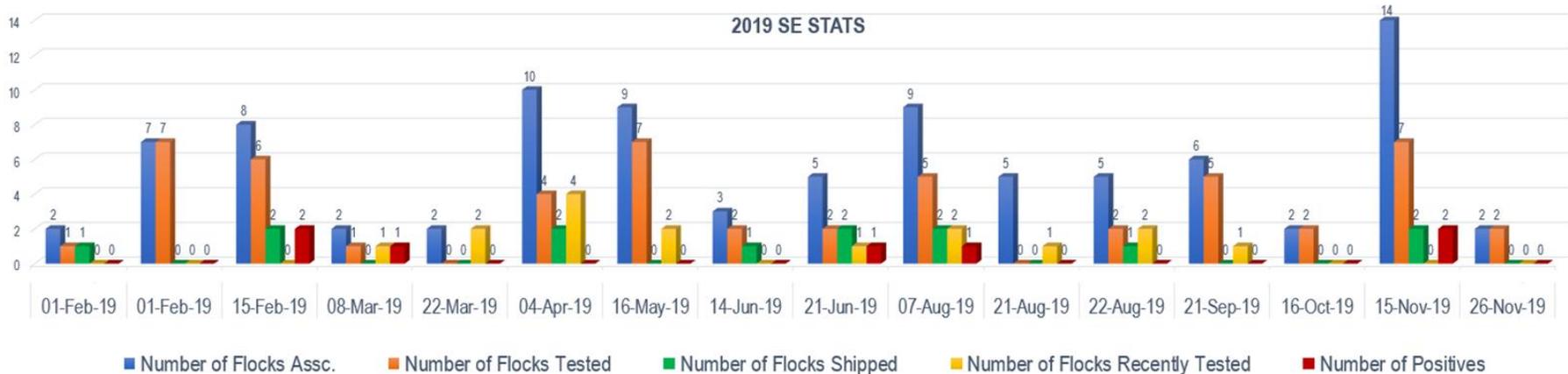
SE is vertically transmitted from the breeder bird through the egg and contaminates the progeny. SE is typically introduced to a flock through vectors such as rodents and insects. High mortality can be experienced from the broiler grower side, and additional costs incurred to C&D post-processing of that flock. On the hatching egg producer side, the broiler breeder is rarely impacted with mortality challenges; producers report that flocks are often non-symptomatic, and in most cases, flocks achieve anticipated production levels. This non-symptomatic viral behaviour and the ever-present vectors in long-life flocks make regular testing of the utmost importance. Knowing which flocks are positive and introducing mitigation strategies, appropriate product handling, increased biosecurity and post-positive cleaning and disinfection protocols to ensure limited contamination are all strategies that can be implemented once a flock is identified.

### 4. SE in the Hatching Egg Sector

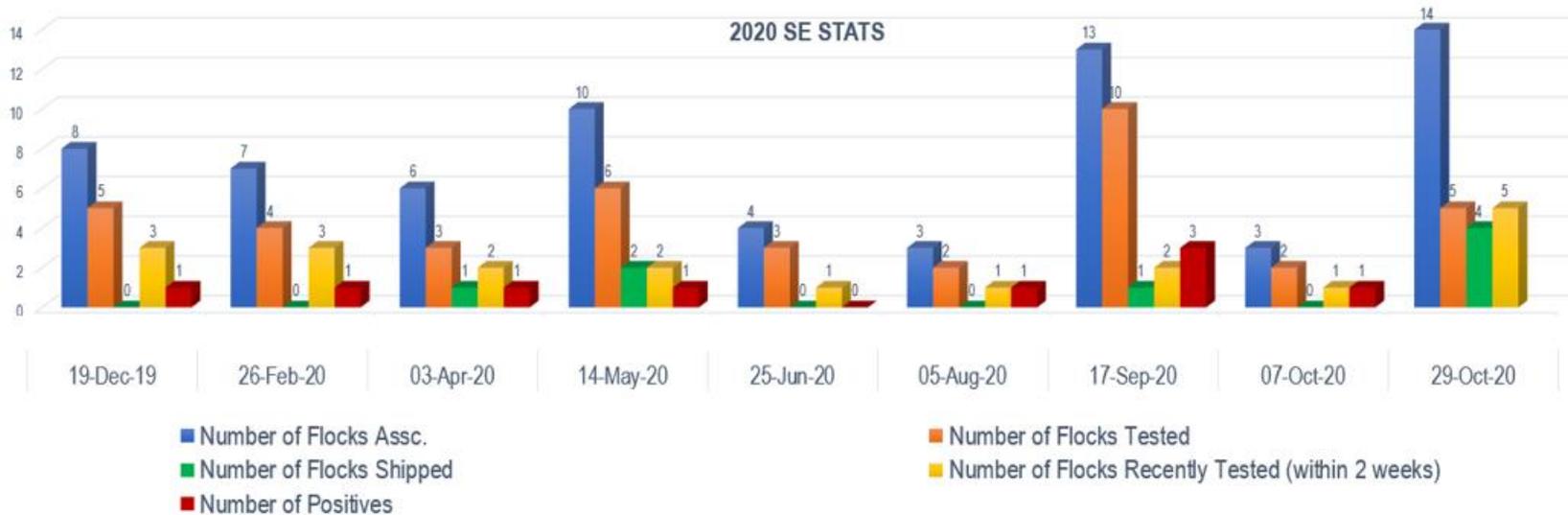
While testing has remained consistent and mitigation strategies mandatory, BC hatching eggs continue to battle SE. 2018 was a low prevalence year, 55 flocks tested, and one positive flock identified.



In 2019 SE rates increased with 53 flocks tested, and seven positive flocks identified. There is no evidence to support causation for the increase in positive flocks, only that more flocks tested positive.



2020 is a year indicative for changes to the protocols as nine flocks have tested positive year to date.



## 5. Testing Protocol Recommendation

In researching other stakeholder groups and facilitating the request for updated testing by the Egg Hatchery Association (EHA), the following testing schedule is in implementation process commencing January 2021, the Commission anticipates a year long implementation to ensure all process risk gaps are reviewed. While the prevalence issue is clear, there are several identifiable risks throughout the implementation process that require both stakeholder feedback and Commission consideration. Additionally, the hatchery stakeholder group must also commit to mitigation strategies within the hatchery to ensure the supply chain is facilitating the objective of this implementation process.

Test 1: Day Old Testing at Breeder Chick Placement –Currently in practice

This test is currently in practice and meets the CHEP<sup>1</sup> and EHA<sup>2</sup> testing criteria.

If positive, the producer will be tested a second time to ensure the test was not contaminated. If positive a second time, engage in mitigation strategies and be tested again to ensure those strategies have been effective as the flock is no longer testing positive.

Identified Risk: Flock remains positive, and there are no available remedies to address the flock situation—this impacts both the producer and the hatchery.

Test 2: Pre-Move Testing- Additional Test

This test ensures healthy flocks are going into the lay house and is recommended by the CHEP and EHA proposal. Hatchery field staff will conduct this environmental test when the bloods are taken.

If positive, producer will engage in mitigation strategies and be tested again in two weeks to ensure those strategies have been effective. The flock is no longer testing positive before birds go into full production.

Identified Risk: Flock remains positive, and there are no available remedies to address the flock situation. This impacts both the producer and the hatchery.

Test 3: Fluff Follow up in Lay House – Currently in practice

The current practice of the fluff sample follow-up will continue to monitor flocks in-lay. Ministry and consultant veterinarians confirmed that the fluff sample trigger is of greater monitoring value than one test per flock.

If positive, producer will engage in mitigation strategies and be tested again to ensure those strategies have been effective, and the flock is no longer testing positive. If a second positive is found, the product will be redirected to the breaker for two weeks. After two weeks at the breaker, a final test is taken, and if found positive shackles are to be booked, subject to SE insurance framework implementation.

---

1. CHEP DRAFT SE protocols  
2. EHA SE proposal

Identified Risk: Early flock removal is a high financial cost to the producer and hatchery, as early removal has a direct financial impact and interrupts egg flow.

Test 4: Pre-Processing Date Test (flock ages of 50 -56 weeks) – Additional test

This test ensures healthy flocks are going to the processor or that the processor is aware of the processing risk. This is an additional test and meets the CHEP and EHA testing criteria.

If positive, producer will engage in mitigation strategies, and the assigned processor notified.

Post-Positive C&D testing will remain mandatory to ensure that chicks are placed into clean barns.

Identified Risk: Processor refusal to remove purchase fowl has a financial impact on the producer.

Test 5: Post Positive C&D Sampling –Currently in practice

Staff is confident that the post C&D protocols implemented in 2013 are still appropriate to ensure a barn is ready for the next flock. No evidence has been shared or identified that a post SE positive flock placed within the same airspace needs to be tested at regular intervals as per the EHA proposal.

Identified Risk: SE remains in the airspace undetected by the follow-up test.

Test 6: Spiking Male Testing –Currently in practice

Staff is confident that the current spiking male testing taken for males to be moved lay house to lay house between premises is sufficient to ensure spiking males are not contaminating the next airspace. There is no compelling information that suggests this protocol is insufficient in mitigating the risk of moving males.

Identified Risk: SE remains undetected and is vectored into another airspace.

## **6. Hatchery Commitment:**

For this new testing criteria to be met in a meaningful way, a second key stakeholder commitment level must be addressed. There are several key responsibilities to be included for the hatcheries within the new testing protocols.

1. Hatcheries are expected to maintain proper sanitation protocols, CFIA inspects every six weeks at the hatchery to ensure compliance.
2. Hatcheries are expected to deliver clean and sanitized equipment to farms. If the equipment cleanliness is unacceptable to a producer, the hatchery will ensure that it is picked up and replaced within a reasonable timeframe.
3. Hatcheries will conduct the day-old breeder tests as currently practiced.
4. Hatcheries will conduct test 2 at the time bloods are taken in the pullet house. Consistent material will be used to take the sample, and the Commission's protocols for collection of that sample will be used. Hatchery staff are subject to third-party auditing on collection process.
5. Hatcheries will facilitate using domestic production over import products should SE positive product be directed to the breaker.

Highly Recommended:

1. Discretionary testing is encouraged at the hatchery level.

2. Faster and Broader retesting after positive fluff samples encouraged

**7. Supporting Documentation:**

1. CHEP Salmonella Enteritidis (SE) Framework
2. BCEHA Salmonella Enteritidis (SE) policy for Hatching Egg Supply Flocks (all ages) to the Hatcheries and for Broiler Flocks to the Primary Processing Plants
3. Framework regarding Salmonella Enteritidis (SE) and Salmonella Typhimurium Phage Type DT104 (ST DT104) For the Alberta Hatching Egg Producers
4. CFC SE Prevalence
5. BC Egg Marketing Board – Salmonella Enteritidis (SE)