

Note: A risk profile comprises a systematic collection of information needed to make a decision regarding future action, and whether resources should be allocated to a more detailed assessment, and if so the format that assessment should take, i.e. whether qualitative, semi-quantitative or quantitative. Creation of a risk profile is the responsibility of the risk manager although aspects of the work may be commissioned out to appropriate parties. The principles of risk profiling have been outlined by WHO/FAO and Codex in the context of microbiological food incidents. FSANZ considers that risk profiling concepts and processes can also be applied to food incidents involving chemicals.

This Draft Emergency Risk Profile is based on the best information available at the time and, due to time constraints, may be incomplete in nature. It should not be regarded as setting a precedent or used as a basis for any other decision making outside the current incident or for later in the same incident if further information makes previous decisions obsolete or inappropriate.

National Food Incident Response Protocol

Draft Emergency Risk Profile

Interim and incomplete in nature

Incident No:	2019-01
Name of Incident:	<i>Salmonella</i> Enteritidis linked to eggs
Time/Date of meeting:	Email update
Version:	2.0
Present:	
Information and background available: <i>[Include summary information on the hazard-food combination and background to the current food incident]</i> <p><i>Salmonella</i> Enteritidis (SE) was first detected on a NSW egg farm in September 2018. Since this time, four other farms in NSW have had positive detections with the most recent notification on Wednesday 13 March 2019.</p> <p>A commercial egg farm in Victoria tested positive for SE on 18 March 2019. All six egg farms with a positive detection are epidemiologically-linked to each other either through business ownership, supply and distribution chains, or proximity.</p> <div style="background-color: black; color: white; text-align: center; padding: 10px;"> s 45/ 47B/ 47E/ 47G </div>	

There is no known international export of eggs from the NSW or Victorian implicated farms. Recalled eggs have been distributed to NSW, VIC, TAS, ACT and SA.

While SE is nationally a notifiable animal disease, there are no formal response arrangements for SE, nor is SE a listed disease for cost sharing under the national Emergency Animal Disease Response Agreement (EADRA). The Australian egg industry (Australian Eggs) has developed its own response plan for SE (*Salmonella* Enteritidis Response Plan) and this is guiding destruction of infected birds, decontamination and other biosecurity measures on infected farms in NSW and Victoria. There has been one consumer level recall [FSANZ2018/69] in 2018, and a separate consumer advisory notice in NSW in February 2019 linked to this incident; one trade level recall from NSW (affecting NSW and Vic) [FSANZ2019/14], and one consumer level recall issued in Victoria (affecting VIC, NSW, SA, TAS and the ACT) [FSANZ2019/15] (coordinated 21 March 2019).

Has this issue been handled under the Bi-National Food Safety Network? **YES/NO**

[Include summary information on action under the Network]

Information sharing email circulated on 4 March 2019 on this issue from the New South Wales Department of Primary Industries.

Hazard information

Information on the hazard

[Microbiological: e.g. general description and key attributes such as virulence factors, thermal and antimicrobial resistance. Outcomes of exposure, availability and nature of treatment]

- SE is a Gram-negative, non-spore forming rod-shaped bacterium. It is one of over 2000 *Salmonella* serovars.
- The majority of SE cases notified in Australia are historically associated with overseas travel. Locally acquired infections are predominately Phage Type 26. The outbreak strain has been phage typed as PT 7A.
- SE (in particular PT 4) is a globally important *Salmonella* serovar that has the potential to infect the reproductive tract of poultry and contaminate the internal contents of eggs through vertical transmission. This is different from the type of *Salmonella* most commonly associated with egg outbreaks in Australia (*S. Typhimurium*) which is found on the shell.
- Analysis of the genetic profile of the outbreak SE whole genome sequence did not identify a specific SE20 gene sequence linked to virulence and transovarian transmission. The SE20 gene

	sequence has been found in other isolates, which are typically associated with overseas travel.
Exposure to the hazard	<p><i>[Microbiological: – Data/information from outbreak investigations; characteristics of implicated foods; production practices, food use and handling that influences exposure]</i></p> <ul style="list-style-type: none"> The outbreak strain of SE has been detected on layer farms in NSW, and one farm in Victoria. <p>[REDACTED]</p> <p>s 45/ 47B/ 47E/ 47G</p> <p>[REDACTED]</p>
Information on adverse human health effects	<p><i>[e.g. outline the nature and severity of adverse health effects, subsets of populations at increased risk (differing susceptibility, food intake, socio-economic status, geographical location), prevalence and incidence data from public health surveillance, consideration of dose-response relationship (where available)]</i></p> <ul style="list-style-type: none"> Salmonellosis is a leading cause of enteric illness worldwide. All age groups are susceptible to <i>Salmonella</i> infection. Symptoms range from mild gastroenteritis to systemic illness such as septicaemia and other longer-term conditions. Symptoms of cases with the outbreak strain for the SE cases are more severe than other <i>Salmonella</i> serovars traditionally associated with eggs in Australia, such as <i>Salmonella</i> Typhimurium associated outbreaks. <p>[REDACTED]</p> <p>s 45/ 47B/ 47E/ 47G</p> <ul style="list-style-type: none"> Although uncommon, long-term effects or sequelae may occur including reactive arthritis.
Risk management options	<p><i>[Describe the risk management options that have been identified to date. Is action required at a national level:</i></p> <ul style="list-style-type: none"> <i>- Was the initial notification for information only?</i> <i>- Could this issue be discussed at the jurisdictional forum?</i> <p><i>Is some, or significant action required at a national level?]</i></p> <ul style="list-style-type: none"> Under the Australian Eggs' <i>Salmonella</i> Enteritidis Response Plan, birds and other potentially infectious material on SE

	<p>infected properties (such as manure, eggs, packaging) are to be quarantined and destroyed.</p> <ul style="list-style-type: none"> • In NSW, birds on all affected farms have been killed onsite and sent for rendering. Manure has typically been composted, and eggs sent off for pulping. This action has been under direction according to the NSW <i>Biosecurity Act 2015</i>. • Similar control measures are currently underway for the infected farm in Victoria. The farm is currently quarantined under the Victorian <i>Livestock Disease Control Act 1994</i>. • Recall of eggs from the supply chain has also been used where necessary to reduce the risk to human health. Recall activity has been carried out under the applicable Food Act provisions. • Currently there is no cost-sharing arrangement for destruction and management of farms affected by SE in Australia. This has resulted in costly interventions for both state governments and the egg industry.
Other information relevant to risk management decision-making	<p><i>Routes of Exposure:</i></p> <ul style="list-style-type: none"> - <i>Could there be other ingredients?</i> - <i>Is there the potential for other products to be affected?</i> - <i>Are there other distribution channels?</i> <p><i>[e.g. discuss adequacy of the available data, perceptions of the food safety issue by interested parties, practical considerations (economic, technical, political, legal), possible actions and expected consequences; approaches taken by other countries (and proposed need to confer with international food safety colleagues)]</i></p> <ul style="list-style-type: none"> • Standard 4.2.4 Primary Production and Processing standard for eggs and egg products was not intended to address <i>Salmonella</i> serovars such as SE which are potentially capable of vertical transmission in eggs. At the time of development of the standard, Australia was considered to be 'SE-free' and therefore consideration of SE was out of scope. There may be gaps in the requirements of Standard 4.2.4 to manage SE. • Pasteurisation temperature and time requirements for egg pulp, egg yolk and egg white are listed in Standard 4.2.4.
Risk assessment need, feasibility and questions	<p><i>[Assessment of need and benefit to be gained from requesting a risk assessment. Feasibility that such an assessment could be accomplished within the required time frame. Recommended questions to be posed to the risk assessor]</i></p> <ul style="list-style-type: none"> • There is limited benefit to be gained from further risk assessment.

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Recommendations	<i>[Recommendations for future activities e.g. immediate risk management action, a decision to conduct a quantitative risk assessment, or a programme to gather more data]</i>
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