



Elanco™



FSP
food safety program



FARM TO PLATE
SALMONELLA PREVENTION



How will your operation meet new demands in food safety?



New food safety regulations and codes of practice are going into effect in more markets, while the food chain is placing new expectations on producers. Meanwhile, a growing number of consumers want assurances about the safety of their food and demand for safe labels continues to grow.

To help live poultry operations address these challenges, Elanco has developed the **Food Safety Program (FSP)**. The goal of **FSP** is to help operations produce *Salmonella*-free eggs and meat, improve overall food safety and satisfy the growing demands of customers and consumers.

▶ **Read on** to see how **FSP** can help your operation navigate the ever changing food safety environment.

What is **FSP**?



A comprehensive approach to reduce *Salmonella* risk on your operation

The **Food Safety Program (FSP)** is an exclusive opportunity available to selected Elanco customers to optimize *Salmonella* prevention at the operational level in live poultry production. **FSP** assesses *Salmonella* risk across your operation and helps you develop and implement strategies to reduce it.

Is **FSP** right for you?



Do you want to make operational improvements that will help:

- Identify risks of *Salmonella* incursion
- Improve biosecurity and reduce the overall risk of disease
- Monitor the effectiveness of your established food safety program
- Satisfy upcoming codes of practice and regulations
- Produce *Salmonella*-free eggs or meat
- Keep your business competitive in domestic and foreign markets

Food Safety Program (FSP)

If you checked any of these boxes, FSP could be beneficial to meeting your operation's food safety and business goals.

Why participate in FSP?

Gain insights to improve food safety

Choosing to participate in FSP means making a commitment to continuously improving your food safety practices. Your Elanco Food Safety Team matches that commitment with industry-leading analysis and long-term support to help you meet your *Salmonella* reduction and food safety goals.

FSP is an objective, scientific approach to *Salmonella* prevention on your operation. One that is easy to manage, measure and implement across your facilities.

FOOD SAFETY FACT:

Early users have reported the ability to charge a premium price after implementing recommendations from FSP.

Salmonella prevention

FSP provides a new level of *Salmonella* prevention:

- External but trustworthy perspective on your operation
- Science-based and internationally tested
- Quantitative and qualitative assessment
- Practical and easy to understand
- Comparable results for useful benchmarking

Most importantly, FSP helps protect your reputation and can enhance profitability. Operations with a demonstrated commitment to food safety and positive performance record can often demand a premium in the market for their products.

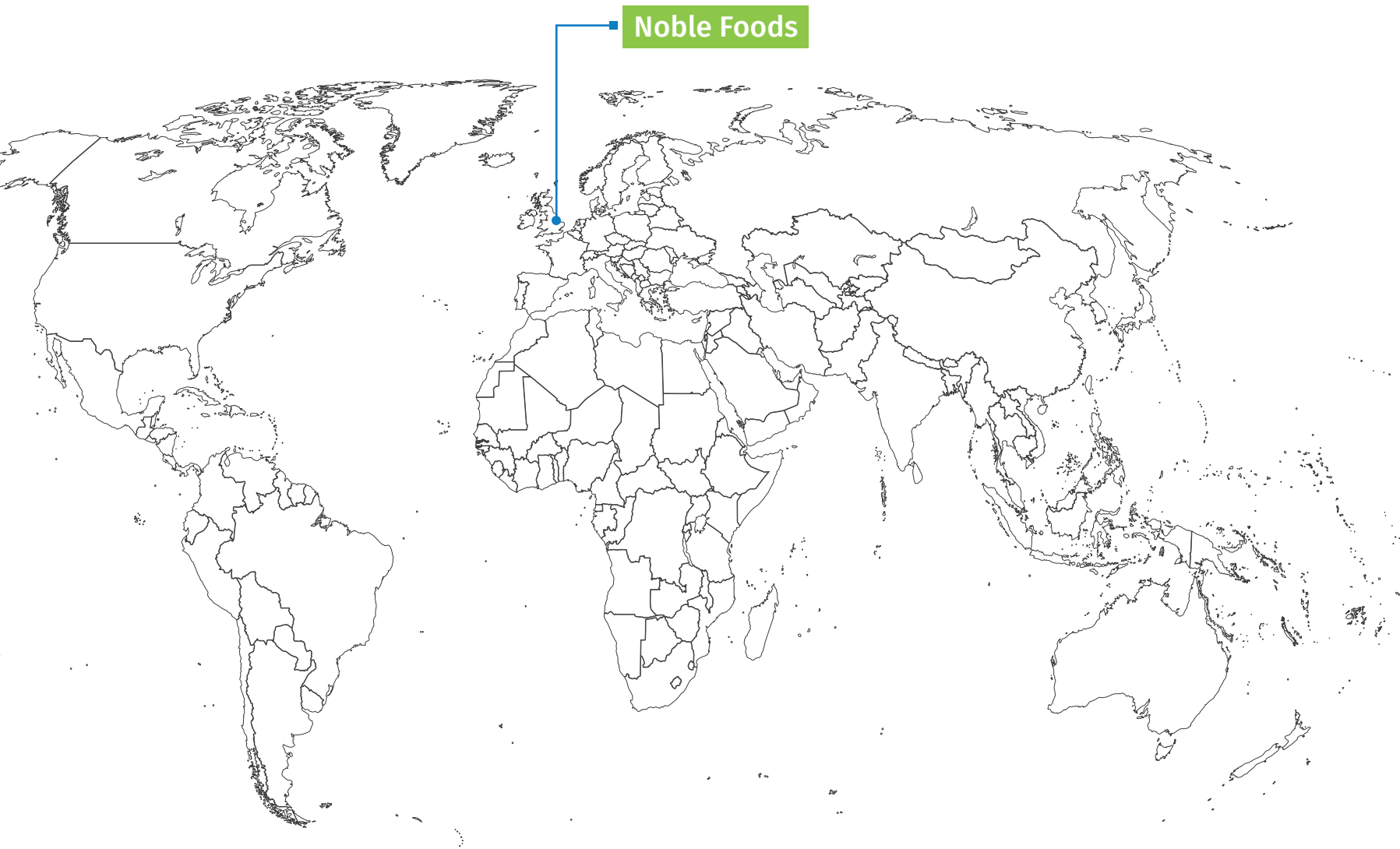


How was FSP developed?



Developed by poultry producers for real-world application

FSP was designed in collaboration with real poultry producers and global animal health experts at Elanco. The goal was to develop a program that helped producers measure their *Salmonella* safety efforts and create benchmarks to promote continuous improvement in food safety on poultry operations. By reducing the risks *Salmonella* can pose to an operation, FSP ultimately can help producers protect and enhance their reputations in the food supply chain and with consumers.



Used by leading operations

FSP has been used by multiple poultry operations around the world as part of a pilot program. This includes internationally recognized brands like Noble Foods in the UK and suppliers to some of the world's largest poultry buyers, like McDonald's.

Through this pilot program, FSP has been refined and proven to work in a diverse range of settings, regulatory environments and business cases. Today, we are excited to expand the FSP offering to select organizations like yours.



HOW CAN FSP IMPACT OPERATIONS?

"The FSP is proving, I believe, to be a really useful tool. Completion of the FSP across the producer base creates a benchmark. It highlights specific focus areas. It's simply: If we do this better or differently, we can see improvements on the farm and we can reduce that risk. It's about continuous improvement."

Graham Atkinson

Agricultural Director, Noble Foods

Noble Foods is the leading vertically integrated egg business in the UK.



Why focus on *Salmonella* and food safety?



FSP approaches *Salmonella* as the greatest food safety risk for poultry operations worldwide – and the one that can be most impacted through interventions. By implementing practices and strategies to reduce *Salmonella* risk, FSP can also lower the food safety risks posed by other pathogens common in poultry production, while helping producers meet marketplace demands for safer food.

FOOD SAFETY FACT:

Salmonella and health

- ▶ Food-borne *Salmonella* poses a significant risk to human health.

Globally, every year *Salmonella* causes an estimated: ¹

- 94 million human infections
- 155,000 deaths

- ▶ There are thousands of *Salmonella* strains, but just two are responsible for 60% of outbreaks worldwide: ¹



***Salmonella* Enteritidis (SE)**



***Salmonella* Typhimurium (ST)**



Salmonella and the food chain



Salmonella with antimicrobial resistance.

Some *Salmonella* strains may carry resistance against clinically important antimicrobials and may jeopardize treatment of invasive salmonellosis in humans.²



Salmonella is increasingly a focus of regulatory efforts.

Because of its prevalence, virulence and economic impact, *Salmonella* has also been targeted by a number of new and emerging regulatory programs. This can include formal regulations or codes of practice which may lead to regulations.



More consumers care about food safety.

Consumers are also becoming more interested in the safety, health and sustainability of their food. This is an emerging issue particularly in APAC, South Asian and Latin American markets.³ More and more consumers are looking for transparency in food labeling that indicates both the type of ingredients in their food (e.g., all-natural, low-fat) and processes used in producing it (e.g., high grade of food safety, sustainably produced). Around the world, a growing number of consumers are willing to pay a premium for products that carry these kinds of labels.⁴

How does FSP work?

FSP is a four-step program. Each completed by your dedicated Elanco Food Safety Team in partnership with your operation.

A four-step process to better food safety

- 1 Assessment**
- 2 Benchmarking and Scoring**
- 3 Planning and Training**
- 4 Implementation and Monitoring**

Step 1

Assessment

Identify where *Salmonella* poses a risk to your operation and critical control points

The FSP process begins with a site visit. This visit can include any number of facilities within your operation or network, such as hatcheries and breeding, grow-out and laying facilities. The places we visit are up to you, and the initial review can be completed remotely. By visiting a range of locations and types of facilities, we can develop a more thorough analysis of your operation's *Salmonella* risk factors and identify critical control points.

Visits are completed by the Elanco Food Safety Team. These professionals know *Salmonella* and where operations are most vulnerable. They are also experts in food animal agriculture who understand the practical considerations of running a productive and profitable operation.

▶ During a field visit, your Elanco Food Safety Team will:



■ **OBSERVE** your operational processes, including any current *Salmonella* prevention practices.



■ **DISCUSS** your biggest areas of concern and what you hope to accomplish with FSP.



■ **MEASURE** presence of *Salmonella* to identify causes of contamination.

• **This field visit is not an inspection or audit.** The purpose of a field visit is to identify areas for continual improvement, not assign blame. Information and observations are completely confidential and applied directly to improve your operation's *Salmonella* and food safety strategies.

Step 2

Benchmarking and Scoring



See how your operation measures up, and **identify** areas for improvement

Using a checklist of well-known *Salmonella* risk factors, the Elanco Food Safety Team will evaluate key areas of your operation. These **critical control points** are measured across three main operational categories:

Critical control points:



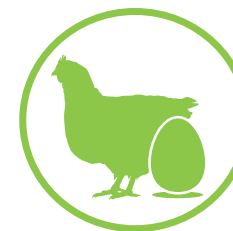
I: External farm protection:

- ▶ Management, logistics, organization
- ▶ Premises, farm area
- ▶ Hygienic barriers and biosecurity
- ▶ Replacement flocks



II: Internal farm protection:

- ▶ Flock and hygiene management
- ▶ Cleaning, disinfection and pest control
- ▶ Climate control



III: Health, performance and production-related parameters:

- ▶ Vaccination
- ▶ Nutrition

Scoring

Each critical control point receives a weighted score, using our standardized **Food Safety Index (FSI)**. The FSI provides a simple way to identify areas to improve for better food safety. The resulting report presents an overview of how effective your operation's prevention strategies are, and your *Salmonella* risk status. FSI scoring makes it easy to understand – and communicate – factors that may be putting the operation at risk of *Salmonella* incursion. Once the assessment is complete, you'll receive a report outlining all findings and providing a clear path for areas of improvement.

The FSP risk ranking report shows scores for individual factors, each section and the total farm. Color-coding makes it easy to identify areas of highest risk and where the operation has the greatest opportunity for improvement.

What is the FSI?

The Food Safety Index (FSI), developed by Elanco in partnership with poultry producers and food safety experts, is calculated by applying a weighted score to critical control points for *Salmonella*. Each control point is weighted according to its epidemiological relevance.

This weighting system is based on science, and is derived from:

- ▶ In-house technical expertise and experience
- ▶ Literature reviews
- ▶ European baseline reports and studies
- ▶ Delphi study (surveying poultry experts)
- ▶ Three-year expert panel project

The resulting score, or FSI, provides an indication of the level of risk for a poultry operation to be affected by *Salmonella*.

▶ **The Food Safety Index (FSI) provides results that are:**



Comparable



Reliable



Standardized



Repeatable

Step 3

Planning and Training



Take action to reduce *Salmonella* risk and **improve** food safety

After identifying areas of improvement and critical control points in Step 2, your Elanco Food Safety Team will work with you to design training programs and other implementation support strategies to begin reducing your *Salmonella* risk factors. These programs are fully customized to your operation, farm and/or facility.

► Examples include:

- Training in proper sanitation of water lines
- Strategies for litter beetle control
- Updated procedures for cleaning and disinfection of houses
- Implementation of vaccine program
- Vaccination against *S. Enteritidis* and *S. Typhimurium*
- Regular monitoring of *Salmonella* status of replacement flocks
- Vaccination monitoring procedures
- Visitor protocols



Step 4

Implementation and Monitoring



Follow your operation's long-term progress

The monitoring program allows your operation to continually measure your success against the *Salmonella* risk factors identified in Step 2, and ensure staff are implementing new measures properly. With ongoing scoring using the FSI, you can see where you are making gains and identify emerging risks.

Your Elanco Food Safety Team will work with you to design the right monitoring program for your operation, taking into account practical considerations, including financial commitment, time-sensitive issues and general working practices.

Establishing a monitoring program – and continuing to measure progress against set goals – **demonstrates to your food supply chain partners and consumers that your operation is taking active steps to attain the highest standards of food safety.**

Your FSP reports and data are available to you 24/7 through the FSP app.

Through these digital tools, you can see not only how your operation is performing against your own benchmarks, but how you perform against other operations regionally and worldwide. Individual operational data is confidential, but data is amassed to provide comprehensive views of industry performance.





Getting started

Talk to your Elanco representative.

We'll work with you to:

- Introduce FSP and complete your application for the program
- Identify locations for assessment – the initial assessment can be completed remotely
- Define how FSP will be implemented in your organization

To learn more about comprehensive approaches to *Salmonella* prevention, visit Elanco.com.

¹ Hendriksen RS, Vierira AR, et al. Global Monitoring of Salmonella Serovar Distribution from the World Health Organization Global Foodborne Infections Network Country Data Bank: Results of Quality Assured Laboratories from 2001 to 2007. *Foodborne Pathogens and Disease*. 2011;8:887-900.

² Cosby DE, Cox NA, et al. Salmonella and antimicrobial resistance in broilers: A review. *Journal of Applied Poultry Research*. 2015;24[3]:408-426.

³ HealthFocus International. Clean Conscience Eating: Understanding Shopper Attitudes Towards Eating Clean Around the World (Report Excerpt). 2019. https://www.healthfocus.com/wp-content/uploads/2019/04/2019-HealthFocus-Global-Report-__-Clean-Conscience-Eating__FREE-EXCERPT.pdf. 2019.

⁴ Cassity J. State of Clean Label Around the World: Global Similarities, Geographic and Generational Differences. Kerry. <https://www.kerry.com/insights/kerrydigest/2018/state-of-clean-label-around-the-world>. 2018.



Elanco

Salmonella **360°**
Solutions



FSP
Food safety program