

# BT-13

Ver 0.2

## Salmonella Control





## DOCUMENT HISTORY

Version and date of approval	Reason for revision	Revision scope	Ultimate date of application
0.0 7/09/2012	Moving of inspection requirements from document AT-10 to this new document. Adaptation and clarification regarding the applicable requirements.	Entire document	9/11/2012
0.1 1/07/2013 (first version in this language)	Clarification as to the application of controls intended for companies producing compound feed for poultry as well as compound feed for other animals.	Point 4.3.3	1/07/2013
0.2 21/10/2016	New lay-out	Entire document	21/10/2016



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# BT-13 : Salmonella Control

## 1. Objectives

This document provides details regarding the additional controls performed by companies, in the context of control measures for Salmonella.

The control is complementary and independent of the monitoring plan, developed by the companies in the context of document 'AT-05 – Monitoring'. It completes the other controls already performed. It has mainly been developed for the purpose of monitoring the company's processes, aiming at a quick detection of any potential presence of Salmonella which could contaminate animal feed destined to be placed on the market.

In this case, Salmonella analysis are used as an «indicator» for the contamination of the installation and process.

### Use of other analysis results

Companies may already be in possession of the analysis results regarding Salmonella. They may, e.g. come from a supplier, or from the realization of a sector based or individual monitoring plan. These analysis must not be used in the context of this document. The application of this document is intended to verify whether installations or processes inherent to the company are not the cause of Salmonella contamination.

## 2. Application scope

This document is mainly intend for:

- Traders, selling feed materials directly to the farmer;
- Compound feed producers (including manufacturers of complementary feed).

Are potentially affected by application of this document:

- Any feed materials acquired by the company;
- Any compound feed manufactured by the company and destined for food producing animals.

Compound feed for non-food producing animals, manufactured by the company, do not fall within the application scope of this document.

One may therefore consider that:

- Either they have been submitted to a specific control for pet food containing products of animal origin (see 'AT-12: Production of pet food');
- Or, contain few risks in connection with the contamination of the food chain by Salmonella

### Feed for non-food producing animals

This document is not applicable to feed for non-food producing animals. This does not necessarily mean that a Salmonella specific control may not be implemented by the company.

Depending on the specific Salmonella risk of the target animal, one may opt for an additional control, for which the company will be responsible.

### 3. Feed for “Salmonella-sensitive” animals

This notion is applicable in the context of this document only, and should not be approached using the same principles as for the determination of CCPs or PAs in an HACCP analysis.

A «Salmonella sensitive» feed, is a feed whose characteristics are more or less favorable for the presence and/or development of Salmonella.

The determination regarding the sensitivity to Salmonella is always performed in comparison to another feed. This notion is important when it comes to the choice of pet food to be analyzed.

#### Sensitivity for Salmonella

The nature of the feed is one of the characteristics that are potentially favorable for Salmonella. A feed of mineral origin (e.g. calcium carbonate) will provide a less favorable soil than feed of plant origin (e.g. soybean meal). Then again, feed of animal origin (e.g. fishmeal) will be more sensitive than feed of mineral or vegetable origin.

Besides the origin, the specific nature of the product may also influence the sensitivity to Salmonella. Cereals are less sensitive to Salmonella than soybean or rapeseed cake.

A product with a fairly acidic pH (certain by-products originating from the food industry) will obviously be less sensitive due to the fact that acidity affects the development of Salmonella. Also the production process may influence the sensitivity. A product, heated or acidified will be less sensitive than a non-treated product.

#### Specific controle per feed

When a company identifies soybean meal and rapeseed meal as «Salmonella sensitive feed», this means they must follow these feed materials independently of the other. Indeed, the control of soybean meal will not provide any further information regarding the presence of Salmonella in rapeseed meal.

## 4. Control and monitoring of salmonella

### 4.1. General provisions

The control is performed in function of:

- The company's activity (trading or manufacturing);
- The animal feed (purchased or placed on the market) (feed materials or compound feed);
- A treatment, implement by the company and applied to animal feed.

A distinction, is also made in function of the species or category of animals for whom the feed is intended.

In general, poultry seem to be more sensitive to this hazard than other animal species.

Particular attention should also be paid to feed, intended for the breeding of poultry. Accidental contamination of such livestock may risk transmitting Salmonella to the entire offspring and as a result influence a large number of farms.

**! Species considered as « poultry »**

In this document, the term «poultry» includes the entire food producing bird species, whether intended for rearing or for the production of meat, namely:

- Gallinaceous birds (chicken, turkey, guinea fowl, quail, pheasant, partridge, etc.),
- Waterfowl (duck, goose, swan, etc.);
- Ratites (ostriches, emus, etc.);
- Possibly other wild-fowl kept by humans and/or grown for the purpose of ending up in the food chain.

None of these species can be considered as «non-food producing animal».

Sampling and analysis, mentioned in this document must be spread over the entire production. If the production is spread throughout the year, the sampling should reflect this. The concentration of analysis over a limited period (e.g. a quarter) is not acceptable. If the production takes place during a specific period, then the annual sampling, prescribed in this document, should be performed within this time period.

**! Exception for certain complementary feed**

Complementary feed, only containing feed materials from Category 11 'Minerals and derived products' listed in the European Catalogue of feed materials, may, if produced on a separate line and if exclusively intended for this production, be removed from the tonnage, subject to control.

Certain precautionary measures must be followed upon the taking of a sample, intended for microbiological analysis. Indeed, manipulations should be avoided which might accidentally contaminate the product to be analyzed.

The procedure as described in point 5.3 of document 'BT-11: Sampling and analysis' must be respected if the sample is intended for microbiological analysis, as it is the case for Salmonella detection e.g.

## 4.2. Control and monitoring by the trader

The control is only applicable to feed materials intended for direct delivery to the poultry farmer. Any «Salmonella sensitive» feed materials delivered to the poultry farmer must, at least, be analyzed twice a year for the presence of Salmonella.

## 4.3. Control and monitoring by the compound feed manufacturer

### 4.3.1. Feed intended for poultry

The sampling and analysis regarding Salmonella should be performed as follows:

- At the level where the feed material enters the production of the final product;
- At the level of the production process;



- At the level of the final product (compound feed).

The control, may sometime make a distinction between the production of meat or eggs. If this distinction is not possible, the highest control frequency is to be applied.

#### 4.3.1.1. Feed materials used in the production of poultry feed

Feed materials used in poultry feed, should be sampled and analyzed according to the following table. The sampling should be performed at the level of feed materials used in the manufacturing of poultry feed, presenting the highest sensitivity to Salmonella.

Annual production of compound feed for poultry	Minimum number of analysis per quarter for «Salmonella sensitive» feed materials
to 2.000 tons	1
from 2.000 to 4.000 tons	1
from 4.000 to 6.000 tons	2
from 6.000 to 8.000 tons	2
from 8.000 to 10.000 tons	3
from 10.000 to 20.000 tons	5
from 20.000 to 30.000 tons	8
More than 30.000 tons	13

If an anti-Salmonella treatment (see 'AT-10: Salmonella control (point 2) is performed at the level of compound feed (final product), this will invalidate the control of feed. Only for the production process and compound feed should the analysis be performed.

#### 4.3.1.2. Sampling and analysis during the production process

Critical points in the production process, where there is risk of Salmonella contamination (see 'AT-10: Salmonella control' (point 3) should be analyzed, minimum, twice a year.

The control can be performed in two ways:

- By sampling and analysis of feed regarding the critical points «Salmonella» during the production process or
- By collecting, on/ in the installation, product and/or dust residues, and having them analyzed for the presence of Salmonella.

#### 4.3.1.3. Monitoring of compound feed for poultry

The following table indicates the minimum frequency regarding sampling and analysis applicable to compound feed for poultry depending on its destination.

Type of compound feed intended for poultry	Minimum frequency of sampling and analysis, concerted into batches of 28 tons, to be delivered
Top breeding	1 out of 2 batches <sup>7</sup>
Breeding reproduction (other than turkeys)	1 out of 2 batches

<sup>7</sup> If during 1 year no "Salmonella positive" samples has been found upon analysis, the sampling frequency may be reduced to 1 in 5 batches

Type of compound feed intended for poultry	Minimum frequency of sampling and analysis, concerted into batches of 28 tons, to be delivered
Reproduction (other than turkeys)	1 out of 10 batches
Broiler chickens or other poultry intended for consumption (other than turkeys)	1 out of 30 batches
Laying hens and chicks or any other laying poultry	1 out of 30 batches
Breeding reproduction turkeys <sup>2</sup>	1 out of 2 batches <sup>1</sup>
Breeding turkeys <sup>2</sup>	1 out of 10 batches
Meat turkeys <sup>2</sup>	1 out of 30 batches

#### 4.3.2. Animal feed intended for species other than poultry

Sampling and analysis regarding Salmonella should always be performed in function of the, whether or not, execution of an anti-Salmonella treatment.

##### 4.3.2.1. Production of compound feed with an anti-Salmonella treatment

Upon implementation of a treatment, the intended purpose of the analysis shall aim at the control regarding the general hygiene of the installation.

When an anti-Salmonella treatment of compound feed (see 'AT-10: Salmonella Control (point 2) has been performed, the critical control points regarding the production process should, at least twice a year, be analyzed for the presence of Salmonella.

The correct implementation of a heat treatment must go hand in hand with a control as regards the presence of Enterobacteriaceae. Enterobacteriaceae are indicators for the potential presence of Salmonella.

One may consider the value of 1000 CFU/g of the final product as an action threshold for this indicator (cf. 'BT-01: Additional standards for animal feed and by-products for reprocessing').

##### 4.3.2.2. Production of compound feed without an anti-Salmonella treatment

In absence of treatment, the analysis will be performed in the following manner:

- At the level where feed materials are integrated in the production of the final product;
- At the level of compound feed.

This will allow additional controls regarding the contamination risk of the installation through use of ingredients, and to ensure that regular controls are performed to whether the installation is not contaminated.

The following table indicates the analysis frequencies.

<sup>2</sup> For Feedingstuffs for turkeys, in the form of granules, the frequency may be equal to the one provided for feed other than poultry feed.



Annual production of compound feed for species other than poultry	Minimum number of analysis per quarter regarding «sensitive feed material»	Minimum number of analysis per quarter regarding compound feed
To 2.000 ton	1	1
from 2.000 to 4.000 tons	1	1
from 4.000 to 6.000 tons	2	2
from 6.000 to 8.000 tons	2	2
from 8.000 to 10.000 tons	3	3
from 10.000 to 20.000 tons	5	5
More than 20.000 tons	8	8

### 4.3.3. Installations producing both feed for poultry as well as for other species

When feed for poultry and for other animal species are manufactured at a same production site (or on a same production line), the company should apply the most stringent control plan for the entire production (poultry + others).

The analysis should be mainly distributed over the following animal feed:

- Compound feed intended for species with a high sensitivity to Salmonella (e.g. poultry more sensitive than pigs)
- Feed materials entering the composition of compound feed intended for different animal species and/or those considered as «Salmonella-sensitive» (cf. point 3).

**i By-products for poultry of other animal species**

Certain companies produce very limited compound feed which is primarily intended for a specific market.

As an example, and depending on the tonnage, a manufacturer of poultry may also produce feed for certain pig or cattle farmers, hereby applying the frequency indicated in point 4.3.1, if it is more strict than the one applicable in point 4.3.2.

Then again a producer of cattle feed, may produce feed for poultry, intended for his private clientele, provided application of the frequency indicated in 4.3.2., if it is more strict than the one which should have been applied according to point 4.3.1.

The application of the most stringent control plan (4.3.1 or 4.3.2) is therefore logical, since the control of the «by» production is covered by the control of the main production.

## 5. Additional corrective actions upon a Salmonella positive result

For positive Salmonella analysis, further research is required and, if necessary, corrective actions shall be implemented (see 'AT-10: Salmonella control').

## 6. Inventory of results

The analysis results shall be kept and made available for the controlling authorities.