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# Code of Practice for the Control of *Salmonella* during the Production, Storage and Transport of Compound Feeds, Premixtures, Feed Materials and Feed Additives



Department of  
**Agriculture and  
Rural Development**  
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**FOOD  
STANDARDS  
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**The Scottish  
Government**



**Ilywodraeth Cynulliad Cymru  
Welsh Assembly Government**



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### **FOREWORD**

The Advisory Committee on Animal Feedingstuffs was grateful to be given the opportunity to consider and comment on this Code. The microbiological safety of animal feeds has implications for both animal health and consumers of livestock products. Animal feed is considered to be a significant vector for the entry of *Salmonella* into the food chain.

The Code brings together in one document advice that was previously dispersed in three codes and the guidance it contains has been revised to reflect best practice and recent legislative developments. The scope of the Code covers a range of feed products and additives, and it reminds us that these are an important factor in the production of safe milk, meat and eggs.

The Committee welcomes the publication of this updated guidance and hopes that it will be read and followed by all sectors in the feed industry responsible for production, storage and transport.

Ian Brown  
Chairman  
Advisory Committee on Animal Feedingstuffs

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# Introduction

## Monitoring and Control of *Salmonella*

*Salmonella* organisms may occur in the environment and each link in the food chain, from producers to consumers, has a part to play in reducing the risk of human infection caused by *Salmonella*. Animal feedingstuffs are acknowledged to be one possible route by which *Salmonella* can enter the food chain.

This detailed Code of Practice provides non-statutory guidelines applicable to all feed business operators for establishing good production practices, safeguarding the microbiological quality of feed materials, premixtures and additives and compound feeds used directly as, or intended for incorporation into, animal feedingstuffs.

This Code of Practice combines and replaces the following documents; Defra Code of Practice for the control of *Salmonella* in the Production of final feed for livestock in premises producing more than 10,000 tonnes per annum, Defra Code of Practice for the control of *Salmonella* in the Production of final feed for livestock in premises producing less than 10,000 tonnes per annum and the Defra Code of Practice for the control of *Salmonella* during the Storage, Handling and Transport of Raw Materials intended for incorporation into animal feedingstuffs.

However there are 3 Annexes containing information specific to each of the sectors covered.

The Code can be used by all businesses engaged in the production, storage and transport of feed including compound feed, premixtures, feed materials and feed additives.

The legal basis for the control of *Salmonella* is laid down in the:

- a) Feed Hygiene Regulation EC No1831/2005;
- b) Zoonoses Directive 2003/99/EC;
- c) Control of *Salmonella* Regulation EC No 2160/2003; and

# Introduction

## Monitoring and Control of Salmonella

d) National statutory instruments implementing the above, as amended.<sup>1</sup>

The Code contains provisions which are additional to those that most farms must comply with in relation to legislation (e.g. the application of Hazard Analysis Critical Control Point (HACCP) system – see section 3.2 which provides further details). However, farms (including home mixers) may wish to follow the requirements of the Code where relevant, as good practice, or as appropriate to comply with the requirements of farm assurance schemes.

<sup>1</sup> For the latest legislation, refer to the FSA or Defra websites or equivalents for devolved administrations (Scotland, Northern Ireland and Wales)

# Monitoring and Control of Salmonella: General Requirements

## 1. Purpose of the Code

To ensure that compound feedingstuffs, premixtures, feed materials and additives are of a satisfactory bacteriological quality and to minimise the risk of *Salmonella* contamination.

## 2. Definitions<sup>2</sup>

**Additives** in this Code means substances, micro-organisms or preparations, other than feed materials and premixtures, which are intentionally added to feed or water in order to perform, in particular, one or more of the following functions:

- a) favourably affect the characteristics of feed;
- b) favourably affect the characteristics of animal products;
- c) favourably affect the colour of ornamental fish and birds;
- d) satisfy the nutritional needs of animals;
- e) favourably affect the environmental consequences of animal production;
- f) favourably affect animal production, performance or welfare, particularly by affecting the gastro-intestinal flora or digestibility of feedingstuffs; and/or
- g) have a coccidiostatic or histomonostatic effect.

**Compound feedingstuffs** in this Code means mixtures of feed materials, whether or not containing additives, for oral animal feeding in the form of complete or complementary feedingstuffs (EC Directive 79/373).

**Feed (or feedingstuff)** in this Code means any substance or product, including additives, whether processed, partially processed or unprocessed, intended to be used for oral feeding to animals (Regulation (EC) No 178/2002).

<sup>2</sup> For the latest legislation, refer to the FSA or Defra websites or equivalents for devolved administrations (Scotland, Northern Ireland and Wales)

# Monitoring and Control of Salmonella: General Requirements

**Feed materials** in this Code means various products of vegetable or animal origin, in their natural state, fresh or preserved, and products derived from the industrial processing thereof, and organic or inorganic substances, whether or not containing additives, which are intended for use in oral animal feeding either directly as such, or after processing, in the preparation of compound feedingstuffs or as carriers of premixtures (EC Directive 96/25).

**Manufacture/Production** in this Code means all operations including receipt of materials, production, packaging, repackaging, labelling, re-labelling, control, release, storage, and distribution of compound feedingstuffs, premixtures, additives and feed materials where appropriate and the related controls.

**Premixtures** in this Code means mixtures of feed additives or mixtures of one or more feed additives with feed materials or water used as carriers, not intended for direct feeding to animals (EC Regulation 1831/2003).

**Product** in this Code means compound feeds, additives, premixtures and feed materials where appropriate.

## 3. Legislation<sup>3</sup>

### 3.1 The EC Feed Hygiene Regulation (183/2005)

This Regulation requires feed business operators (other than most farms) to comply with detailed standards concerning facilities and equipment, personnel, storage, transport and record-keeping. Feed businesses also have to apply the principles of HACCP.

Farms, including home mixers, must follow basic hygiene procedures in relation to the feed they use and apply a risk-based approach to ensure

<sup>3</sup> For the latest legislation, refer to the FSA or Defra websites or equivalents for devolved administrations (Scotland, Northern Ireland and Wales)



# Monitoring and Control of Salmonella: General Requirements

hazards are properly controlled. Only farms that buy-in additives and premixture products and add them directly to feeds have to observe the principles of HACCP in a formal way.

A number of the requirements of the EC Feed Hygiene Regulation 183/2005 are reflected in the guidance set out in this voluntary code for the control of *Salmonella*. However, feed business operators must observe the entirety of the Regulation as it applies to their business activities. The EC Feed Hygiene Regulation can be found from the link below:

**[http://eur-lex.europa.eu/LexUriServ/site/en/oj/2005/l\\_035/l\\_03520050208en00010022.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/oj/2005/l_035/l_03520050208en00010022.pdf)**

To help farmers comply with the requirements of the Feed Hygiene Regulation, Assured Food Standards has produced an industry Code of Practice for On-Farm Feeding, which can be found by accessing the link below:

**Industry Code of Practice for On Farm Feeding – Red Tractor –**  
**<http://www.redtractor.org.uk/site/REDT/Templates/GeneralStandards.aspx?pagelD=408cc=G B>**

A copy of EC Regulation 183/2005 can be found at:

**<http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32005R0183:EN:HTML>**

The Feed (Hygiene and Enforcement) Regulations 2005 provide for national enforcement (offences and penalties) and other administrative provisions in relation to EC Regulation 183/2005. There are separate and parallel Regulations for England, Scotland, Wales and Northern Ireland.

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## 3.2 Hazard Analysis Critical Control Point (HACCP) systems

- a) There should be a comprehensive system designed, documented, recorded, implemented and controlled, so as to provide assurance that the product will be consistently of a satisfactory bacteriological quality. The techniques of HACCP must be applied as required by the Feed Hygiene Regulation (EC 183/2005). The purpose of the bacteriological monitoring set out in **the Annexes** is to provide an indication that bacteriological quality criteria are being met. Corrective actions are defined in the event that these criteria are not met.
- b) The principles of HACCP are defined in Codex Alimentarius Commission Code of Practice – General Principles of Food Hygiene. CAC/RCP 1 1969, Rev. 4 – 2003 ([www.codexalimentarius.net](http://www.codexalimentarius.net)).
- c) The HACCP risk assessment process must consider the potential contamination from other materials stored or transported.

## 4. Premises

### 4.1 Principle

Buildings should be located, designed, constructed, adapted and maintained to suit the operations carried out therein.

### 4.2 Pest control

The product should be produced and stored in facilities which protect against the entry and harbouring of rodents, birds, insects and domestic, wild and feral animals and safe control measures should be regularly applied to exclude them.

- a) There must be an effective pest control programme. This must include:
  - a plan of the site including locations of all bait stations;
  - details of frequency of checks, with records of findings and actions;

# Monitoring and Control of Salmonella: General Requirements

- details of any baits/chemicals used including Product Safety Data Sheets.
- b) The business should employ a suitably qualified person on site, e.g. holding a British Pest Control Association (BPCA) or equivalent qualification, have a vermin control contract with a BPCA registered company or follow Home Grown Cereals Authority (HGCA) guidance as appropriate. Management should periodically verify the effectiveness of the pest control programme.
- c) The control measures must ensure that poison baits cannot contaminate the feed. This may include using non-grain baits and securing bait points to avoid accidental contamination. Where practical, baits should be outside the actual production and storage areas unless there is a current pest problem in these areas. Where shooting is undertaken, non-toxic ammunition must be used.
- d) Waste and scrap materials, old pallets, overgrowth of vegetation or other materials which can encourage and harbour rodents must be removed from the proximity of the building. In particular, feed spills should be promptly removed. Proactive prevention is more effective than corrective action.
- e) Wild birds should be prevented from accessing bulk feed out-loading areas and prevented from contaminating intake pits and vehicle parking areas.

## **4.3 Production and storage of compound feeds on livestock units**

- a) Where a production and storage facility for product intended for onward sale or supply is located on the same premises as a livestock enterprise, the production and storage area, including loading and unloading areas must be secure and clearly separate from the livestock enterprise and must not share a common enclosed airspace with the livestock.

# Monitoring and Control of Salmonella: General Requirements

- b) Vehicle access must be regularly cleaned or otherwise kept free as far as practicable from any material which has come into contact with farm animals and from livestock faeces, litter and effluent. Separate access to the production facility may be necessary.
- c) Livestock buildings must not drain onto the production or storage facilities or onto their access.
- d) Buildings previously used to house animals or store their waste must have been thoroughly cleaned to remove all organic material, disinfected and dried prior to storing feed. Trailers, loaders, etc. which have been used for other purposes should be similarly treated.
- e) Special attention should be paid to control of pests and restriction of the access of pets, feral animals or poultry into feed production or storage areas.

## 4.4 Building construction and layout

- a) The buildings should be soundly constructed of durable materials and fully enclosed or otherwise proofed against pests/vermin and weather.
- b) The construction and surface finish of floors should be appropriate for the process carried out. They should be maintained in a clean and good state of repair. Floors and walls which may come into contact with product should have surfaces which are readily cleanable.
- c) Walls and ceilings should be clean and maintained in a good state of repair.
- d) Doors should be soundly constructed, close fitting and, where possible, kept closed other than for personnel entry or for the inward or outward movement of feed. If it is necessary for ventilation purposes to open doors then suitable precautions should be taken to ensure this does not increase the risk of vermin and wild birds gaining entry.

# Monitoring and Control of Salmonella: General Requirements

- e) There should be sufficient clean hard standing at entrances and exits to minimise the tracking in of mud, effluent and other wet material by vehicles or personnel.
- f) The site should be well drained. Drains should be of adequate size and should be laid in accordance with the requirements of the local authority or other authorities having jurisdiction. They should have adequate trapped gullies and be properly ventilated.
- g) Plant layout should avoid creating uncleanable recesses. In order to avoid dust containing *Salmonella* from contaminating the product, the intake to the processing area and any dust extraction should be physically separated from areas used to store and despatch the product.
- h) The buildings should be effectively lit and ventilated, with air control facilities appropriate to both the operations undertaken within them and to the external environment. Steps should be taken to ensure that air used to cool extrusions or other heat-treated products is suitable for that purpose and is not a potential source of contamination.

## 4.5 Plant and store operations

- a) The site, processing areas, laboratories and stores should be maintained in a clean, tidy condition and be free from accumulated waste.
- b) Waste material should be collected in suitable covered receptacles for removal to collection points away from the production areas. It should be disposed of at frequent intervals.
- c) Whenever possible, operation areas should not be used as a general right of way for personnel or materials passing through to other parts of the premises.
- d) The operations carried out in any particular area of the premises should be such as to minimise the risk of contamination of one feed, or one product, by another.

# Monitoring and Control of Salmonella: General Requirements

## 4.6 Storage areas

- a) A programme should be drawn up to ensure that all storage facilities are completely emptied and cleaned regularly and according to the type and condition of product stored. Where appropriate, storage areas should enable goods to be stored to allow their maintenance in a clean, dry and orderly condition. Keeping the products dry is important since *Salmonella* needs moisture to multiply.
- b) Products which have been rejected, recalled or returned should be placed in separate and adequately segregated storage to preclude contamination of other materials and products.
- c) Any store which has been used to contain products or other materials contaminated with *Salmonella* must be decontaminated before use for other products.
- d) Storage bays/bins/silos/areas should be organised to permit suitable and effective separation and identification of the various products.

## 5. Equipment

- a) Any equipment used to process, load, unload or otherwise handle products or other materials should be suitable for the purpose for which it is being used and should be maintained in a clean condition.
- b) Any equipment used to handle products or other materials which could be a source of contamination, or products which are known to be contaminated, must be thoroughly cleaned, sanitised and, if necessary, dried before being used to handle other products.

Please see Annex I for guidelines on the use of vehicles.

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## 6. Cleaning

- a) The accumulation of dust, moisture and product remains must be minimised since they form a breeding ground for bacteria, and can also attract pests.
- b) There must be a planned cleaning programme, based on risk analysis, including methods, frequency and times of the cleaning and identifying who should carry out the cleaning. This programme should pay particular attention to parts of the plant which have been identified in the HACCP plan as areas where stale products might accumulate.
- c) The chemicals used for cleaning product contact surfaces must be suitable for this purpose and used in accordance with the manufacturer's instructions. Please see the web address below for the Defra approved list of disinfectants:

**[http://defraweb/animalh/diseases/control/testing\\_disinfectants.htm](http://defraweb/animalh/diseases/control/testing_disinfectants.htm)**

- d) The residues of cleaning chemicals on product contact surfaces must be minimised and must not pose a threat to feed or food safety.
- e) Machinery which comes into contact with dry product must be dried after wet cleaning or must be dry when it is used again for dry product. Because bacteria need moisture to grow, wet cleaning is often undesirable and should only be used where shown to be necessary as part of the HACCP plan and may include disinfection which must be with effective disinfectants at suitable concentration where appropriate.
- f) Cleaning activities must be recorded.

## 7. Bacteriological monitoring

- 7.1** The aim of the monitoring is to check on the environmental hygiene of the premises, equipment, vehicles, incoming and outgoing products and, if necessary, to take corrective action.

# Monitoring and Control of Salmonella: General Requirements

The buildings, environment, plant and equipment (including vehicles), as well as incoming and outgoing product must be subject to appropriate monitoring for the presence of *Salmonella*. Sampling schedules should take account of:

- a) the intended use;
- b) inherent bacteriological risks;
- c) nature and sources; and
- d) past results.

## 7.2 Sample types

In general, dust samples are more sensitive than swabs or scrapings for screening purposes, but swabs or scrapings may be more useful when following up a suspicion of contamination in a plant in order to precisely identify the location of resident contamination. The list below in paragraph 7.3 aims to identify critical sites for sampling programmes, but should not necessarily be regarded as either prescriptive or exhaustive, and may need to be adapted for individual circumstances.

## 7.3 Routine monitoring

### *a) Incoming products*

Raw material, feed materials, premixture and additive deliveries – the frequency should be based on high, medium and low risk – composite samples are acceptable by product type. Consider whether the data is already available from the supplier.

### *b) Buildings*

Samples from ledges, walls and floors – either dust or swab samples – samples from dust units and vacuum cleaners may be included.

### *c) Plant and equipment*

Loading equipment, elevators, conveyors, dust filters, intake and loading areas in stores – either dust or swab samples.



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Intake, grinding, weighing, hand addition, mixing, pelleting, cooling, conveying and packing areas in manufacturing plants as appropriate to process type and risk – either dust, material or swab samples.

## d) Storage areas

Storage bay walls and floors – dust or swab samples.

Storage bin tops (inside and outside) and outloading areas – dust or swab samples.

## e) Outgoing products

Manufactured products by product or process type – composite samples are acceptable – frequency based on high, medium and low risk.

## f) Vehicles

Sheets, internal bodies, rear door or hatch and blower units of bulk vehicles – dust or swab samples.

Buckets and vehicle bodies of loading shovels – dust or swab samples.

Any regular findings of *Salmonella* should be further investigated, particularly if the same serovar is repeatedly found in cooler areas, pellet shakers or dust aspiration.

## 7.4 Process monitoring

The following list indicates where harmonised process-monitoring samples should be taken in compound feed mills and by producers of processed ingredients in order to identify most effectively the regular occurrence of contamination problems with ingredients or post-processing contamination:

- a) dust from ingredient pit augers – usually taken from auger system below or behind the intake pits.
- b) dust from ledges inside tops of ingredient bins, or dust from ingredient sieves or spillage from ingredient bin augers if bins are

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inaccessible or do not accumulate dust – but dust within bins is a better sample – especially from grain bins.

- c) dust from main air aspiration cyclone system – unless this is not accessible when the less sensitive option of vacuumed or swept dust could be used.
- d) dust from coolers – taken below coolers or on associated framework, ledges, etc.
- e) dust from pellet shakers (or for meal ration lines take dust from finished product bins or augers).
- f) dust from ledges near to feed discharge points in out-loading gantries.

## 7.5 Other feed handling premises

### 7.5.1 Sampling for storage facilities:

- a) dust from grain driers, auger systems, grinders, etc. if present.
- b) dust from ingredient pit augers – usually taken from auger system below or behind the intake pits (or in the case of flat stores sweepings from the floor).

### 7.5.2 Additional follow up sampling for home mixers:

- a) dust from ingredient bin augers.
- b) dust from hammer mills, etc.

### 7.5.3 Sampling for hauliers:

- a) residual dust remaining in lorries after a delivery.

## 7.6 Sampling frequency and procedures

- a) Samples should be taken according to a schedule based on risk assessment. The schedule should be planned and reviewed on a regular basis, in the light of results obtained.
- b) Samples must only be taken by trained operatives.

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- c) Sampling equipment (including the sample bag) must be clean.
- d) No contact must be made between the sample and the skin.
- e) The use of inverted plastic sampling bags is recommended.
- f) Samples (including composites) must be fully identifiable to allow full traceability in the case of isolation of *Salmonella*. Information on the type of material, country of origin and species for which the product is intended should be recorded on the submission form supplied to the testing laboratory.
- g) Dry samples should be stored and transported in cool, dark, dry conditions and should ideally be tested within 8 days of sampling for best results. Moist swab or scrapings samples should be tested with minimal delay.
- h) Samples where appropriate must be collected, handled and tested in accordance with approved methods laid down in The Animal By-Products Regulations 2005 (SI No 2005/2347)<sup>4</sup> at a Defra listed laboratory that is approved under those Regulations or to ISO 17025 standards. *Salmonella* isolates must be serotyped by approved serotyping reference methods in an accredited laboratory and reported to Defra and, if appropriate, the relevant devolved administration. Ideally the isolates should be sent directly to Veterinary Laboratories Agency who will carry out full serotyping free-of-charge.

## 8. Records

Suitable records should be maintained, and kept for a minimum period of two years. Records may be required by enforcement officers and should be made available on request. The records should show:

4 The Animal By-Products Regulations 2005 requires any person carrying on a business involving the processing of animal protein to register their business with Defra and take samples of processed material for testing for the presence of *Salmonella*, using the approved methods set out in Part II of Schedule 3 to the Regulations, and at a laboratory authorised by Defra, each day that product is consigned from the premises. There are separate versions of these Regulations in England, Scotland, Wales and Northern Ireland.

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- a) details of movements of products into and out of the storage facility;
- b) details of all vehicle movements;
- c) details of samples taken and dates of sampling and testing;
- d) details of all *Salmonella* test results, including serotypes where appropriate; and
- e) details of actions taken following any *Salmonella* isolation.

## 9. Personnel

- a) The aim should be to ensure that there are sufficient personnel with the ability, training and expertise necessary to make sure that the provisions of the Code are applied. All personnel who may be involved in the manufacture or handling of products should be given clear guidance and instruction on their duties. Training should cover not only specific tasks but good hygiene practice generally and the importance of personal hygiene.
- b) All sampling, cleaning, pest control programmes, etc should be the clear responsibility of specific named member(s) of staff or contractor(s).
- c) All personnel should wear overalls or other appropriate garments. These should be regularly and frequently cleaned. All personnel entering the facility from a livestock enterprise should sanitise their hands and put on clean overalls and footwear when entering.
- d) Eating and drinking should only be permitted within designated areas of the facility. Cloakroom and toilet facilities, where provided, should be kept clean.
- e) No person known to be suffering from a communicable enteric disease should be employed in the manufacture or handling of products where they are in direct contact with them.

### **The Storage and Transport of Feed Compounds, Premixtures, Feed Materials and Additives**

#### **1. Purpose of Annex 1**

To ensure that the bacteriological quality of feeds is maintained during storage and transport and to minimise the risk of *Salmonella* contamination. It is the responsibility of all feed business operators involved in storage and transport to meet the requirements of this Code.

#### **2. Store operations**

- a) The stores should be maintained in a clean and tidy condition and be free from accumulated waste.
- b) Waste material should be collected in suitable covered receptacles for removal to collection points away from the storage areas. It should be disposed of at frequent intervals.
- c) Whenever possible, storage areas should not be used as a general right of way for personnel or materials passing through to other parts of the premises.
- d) The operations carried out in any particular area of the premises should be such as to minimise the risk of contamination of one product by another.

#### **3. Storage areas**

- a) A programme should be drawn up to ensure that all storage facilities are completely emptied and cleaned regularly and according to the type and condition of product stored. Where appropriate storage areas should enable products to be stored to allow their maintenance in a clean, dry and orderly condition. Keeping products dry is important since *Salmonella* needs moisture to multiply.

- b) Products or other materials which have been rejected, recalled or returned should be placed in separate and adequately segregated storage to preclude contamination of other materials and products.
- c) Any store which has been used to contain products or other materials contaminated with *Salmonella* must be decontaminated before use for other products.
- d) Storage bays/areas should be organised to permit suitable and effective separation and identification of the various products.

#### 4. Vehicles

- a) All vehicles and containers to be used for carrying dry products, including those operated by third parties, should be inspected at the time of loading and found to be clean and dry, in accordance with written procedures, before being used for the transport of products.
- b) All vehicles and containers to be used for carrying moist and liquid products, including those operated by third parties, should be inspected at the time of loading and found to be clean and in an appropriate condition for the product concerned, in accordance with written procedures.
- c) All vehicles (and containers as above) used for transport of products should be subjected to a risk based cleaning and sanitising programme to ensure they are maintained in a clean state with no build up of waste material. Ideally, separate vehicles should be designated specifically for products covered by this Code but it is recognised that resources may not allow this. Therefore, if vehicles are used for the carriage of other materials, they must be appropriately cleaned, sanitised and dried before being used to transport products covered by this Code.

### **The Production of Feed Materials, Premixtures and Feed Additives**

#### **1. Purpose of Annex II**

To ensure that feed materials, premixtures and additives supplied for incorporation into, or direct use as, animal feedingstuffs are of a satisfactory bacteriological quality and to minimise the risk of *Salmonella* contamination.

#### **2. Good manufacturing practice**

- a) Where appropriate all production processes should be clearly defined in writing and be capable of achieving the desired results. Procedures should be subject to regular and critical review to ensure that they continue to be effective.
- b) All necessary facilities should be provided, including:
  - i) appropriately trained personnel;
  - ii) individual written procedures, particularly those concerned with the minimisation of contamination; and
  - iii) suitable storage and transport as defined in these codes.
- c) Adequate records should be maintained to assist the investigation of any test that is positive for *Salmonella*.

#### **3. Action to be taken following isolation of *Salmonella***

The action to be taken following the isolation of *Salmonella* will depend on the circumstances of the isolation. The following should be considered by the manufacturer.

##### **3.1 Incoming materials:**

- a) Clean and flush intake, routes and storage;
- b) Vehicle cleaning (whether own vehicles or third party).

### 3.2 Notification

In all cases the following should be advised of isolations of *Salmonella*:

- a) Defra and, where appropriate, the relevant devolved administrations. [The Zoonoses Order 1989 requires laboratories to report all isolations of *Salmonella* from animal/poultry feedstuffs and ingredients to Defra];
- b) Anyone whom the Operator has a contractual obligation to inform.



### **Production of Compound Feedingstuffs and Premixtures**

#### **1. Purpose of Annex III**

To ensure that compound feedingstuffs are of a satisfactory bacteriological quality and to minimise the risk of *Salmonella* contamination.

#### **2. Good manufacturing practice**

- a) All manufacturing processes should be clearly defined in writing and be capable of achieving the desired results. Procedures should be subject to regular and critical review to ensure that they continue to be effective.
- b) All necessary facilities should be provided, including:
  - i) appropriately trained personnel;
  - ii) individual written procedures, particularly those concerned with the minimisation of contamination; and
  - iii) suitable storage and transport as defined in this Code.
- c) Adequate records should be maintained to assist the investigation of any positive test for *Salmonella*.

#### **3. Action to be taken following isolation of *Salmonella***

The action to be taken following the isolation of *Salmonella* will depend on the circumstances of the isolation. The following should be considered by the manufacturer:

### 3.1 Incoming materials:

- a) Clean and flush intake, routes and storage;
- b) Vehicle cleaning (whether own vehicles or third party);
- c) Additional cleaning of plant and equipment; and
- d) Review of test frequency and test result on incoming materials.

### 3.2 Outgoing products:

- a) Carry out traceability to identify the source of contamination;
- b) Additional cleaning of storage and vehicles (where appropriate);
- c) Additional cleaning of plant and equipment; and
- d) Review of test frequency and test results on outgoing product.

### 3.3 Environment:

- a) Additional cleaning of plant and equipment;
- b) Environmental screening follow up; and
- c) Review of environmental test frequency.

### 3.4 Notification

In all cases the following should be advised of isolations of *Salmonella*:

- a) Defra and where appropriate the relevant devolved administrations. [The Zoonoses Order 1989 requires laboratories to report all isolations of *Salmonella* from animal/poultry feedstuffs and ingredients to Defra];
- b) Anyone whom the Operator has a contractual obligation to inform.

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