



VETERINÄR FODERKONTROLL
ASSOCIATION FOR SAFE FEED

National guidelines to good practice for producers of feed materials

A guide to quality assurance and safety for producers of feed
materials

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1. Introduction

The national guidelines to good practice are based on the 17 points listed by the Association for Safe Feed Materials (VFK), which describe the VFK standards for feed safety and which were identified by VFK in consultation with the National Veterinary Institute (SVA). More information about VFK's Feed Safety Standards can be found on their website (www.vfk.se).

The guidelines should be seen as VFK's interpretation of current EU and national legislation, based upon the principles of precaution and HACCP (Hazard Analysis Critical Control Points). HACCP is defined by Codex Alimentarius Commission, the Joint FAO/WHO Food Standards Programme.

For certain industries, e.g. dairies, there may be additional guidelines that overlap these guidelines or include other interpretations. Producers of feed materials follow the guidelines on a voluntary basis. VFK regularly revises these guidelines to ensure that they are kept up-to-date.

1.1 When does a product become feed?

Intent determines if a product is a feed or not. A product that is intended to be food is considered food until the purpose is changed. At the moment it is decided that a product will be used for feeding animals it becomes an animal feed. If there is any uncertainty as to whether a product will be used as food or animal feed it is considered foodstuff.

1.2 The purpose of the national guidelines

EC Regulation No 1831/2003 stipulates that the Member States must promote the establishment of national guidelines for good practice and implementation of the HACCP principles. These national guidelines for producers of feed materials are intended to support feed businesses engaged in producing animal feed and facilitate compliance with the hygiene requirements in the legislation mentioned below. The aim of the guidelines is to provide guiding principles on the prevention of risks, such as the presence of pathogenic microorganisms, undesirable chemical substances and physical objects in feed materials which can constitute a danger to the health of both animals and humans.

The guidelines do not describe feed production in detail, since every feed producer is unique. For that reason, these guidelines must be adapted to the specific conditions prevailing in a particular feed production facility before being implemented, in order to be of maximum benefit to that feed producer in a feed safety perspective.

These national guidelines will be communicated to VFK member companies and will be available on the VFK website, www.vfk.se. They will also be accessible via the Swedish Board of Agriculture website (www.jordbruksverket.se) and the European Commission (EC) register. The guidelines are open access and free for use in various quality assurance systems

1.3 Limitations

The national guidelines concern manufacturers of feed materials for farmed animals and pets. Primary feed products also include by-products such as distillers grain, whey, left-over bread etc. that go to animal feed from food production establishments, processing plants, etc. The guidelines deal with hygiene and safety from the arrival of the raw material at the feed production facility until the manufactured feed product leaves the production premises. The guidelines do not apply to the production of feed materials at farm level or to transport. The guidelines do not describe how the quality system is built up or give a detailed description of documentation routines, since these are specific to each business. However, there are recommendations for necessary documentation. The national guidelines are not legally binding and cannot replace knowledge of the requirements stipulated in EC regulations and national legislation.

1.4 Regulations and directives

There follows an overview of the most important regulations and directives concerning feed materials and the production of animal feed.

- Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety
- Regulation (EC) No 1831/2003 of the European Parliament and of the Council of 22 September 2003 on additives for use in animal nutrition
- Regulation (EC) No 2160/2003 of the European Parliament and of the Council of 17 November 2003 on the control of salmonella and other specified food-borne zoonotic agents
- Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC
- Regulation (EC) No 1831/2003 of the European Parliament and of the Council of 12 January 2003 laying down requirements for feed hygiene
- Regulation (EC) No 767/2009 of the European Parliament and of the Council of 13 July 2009 on the placing on the market and the use of feed, amending European Parliament and Council Regulation (EC) No 1831/2003 and repealing Council Directive 79/373/EEC, Commission Directive 80/511/EEC, Council Directives 82/471/EEC, 83/228/EEC, 93/74/EEC, 93/113/EC and 96/25/EC and Commission Decision 2004/217/EC

- Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal By-products Regulation)
- Commission Regulation (EU) No 142/2011 of 25 February 2011 implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human consumption and implementing Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive
- Directive 2002/32/EC of the European Parliament and the Council of 7 May 2002 on undesirable substances in animal feed
- The Swedish Animal Welfare Act (SFS 1988:534)
- The Swedish Animal Feed and Animal By-products Act (SFS 2006:805) (*Lag om foder och animaliska biprodukter (SFS 2006:805)*)
- The Swedish Regulation on feed and animal by-products (SFS 2006:814)

Swedish Board of Agriculture regulations and general recommendations concerning animal feed (SJVFS 2006:81) Reprint SJVFS 2010:75

- Swedish Board of Agriculture regulations concerning dealings with animal by-products and the import of other products, other than foodstuffs, which can spread contagious illnesses to animals and humans (SJVFS 2006:84) Reprint SJVFS 2010:59

Legislation is a living process and for the latest changes you are advised to consult the Swedish Board of Agriculture's website, www.jordbruksverket.se

2. Definitions

Material of origin: A term used in these guidelines to distinguish incoming feed raw material (material of origin) from outgoing feed material in a facility that produces feed raw materials.x

Critical Control Point (CCP): A step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level. (Recommended international code of practice general principles of food hygiene; CAC/RCP 1-1969, Rev. 4-2003)

Critical limit: A criterion which separates acceptability from unacceptability. (Recommended international code of practice general principles of food hygiene; CAC/RCP 1-1969, Rev. 4-2003)

Farmed animal:

(a) any animal that is kept, fattened or bred by humans and used for the production of food, wool, fur, feathers, hides and skins or any other product obtained from animals or for other farming purposes;

(b) equidae (Regulation (EC) No 1069/2009)

Feed (or ‘feedingstuff’) 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)

Feed additives means substances, micro-organisms or preparations, other than feed material and premixtures, which are intentionally added to feed or water in order to perform, in particular, one or more of the functions mentioned in Article 5(3); (Regulation (EC) No 1831/2003)

Feed business operator means the natural or legal persons responsible for ensuring that the requirements of food law are met within the feed business under their control; (Regulation (EC) No 178/2002)

Feed hygiene means the measures and conditions necessary to control hazards and to ensure fitness for animal consumption of a feed, taking into account its intended use (Regulation (EC) No 183/2005)

Feed materials means products of vegetable or animal origin, whose principal purpose is to meet the nutritional needs of animals, in their natural state, fresh or preserved, and products derived from the industrial processing thereof, and organic or inorganic substances, whether or not containing feed additives, which are intended for use in oral animal feeding either directly as such, or after processing, or in the preparation of compound feed, or as carrier of premixtures (Regulation (EC) No 767/2009)

HACCP: A system which identifies, evaluates and controls hazards which are significant for food safety. (Recommended international code of practice general principles of food hygiene; CAC/RCP 1-1969, Rev. 4-2003)

Hazard means a biological, chemical or physical agent in, or condition of, food or feed with the potential to cause an adverse health effect (Regulation (EC) No 178/2002)

Hazard analysis: The process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant for food safety and therefore should be addressed in the HACCP plan. (Recommended international code of practice general principles of food hygiene; CAC/RCP 1-1969, Rev. 4-2003)

Load carrier – A unit for holding goods together during transport and storage. An example of a load carrier is a container, flatbed or pallet.

Pet animal: Any animal belonging to species normally nourished and kept but not consumed, by humans for purposes other than farming (Regulation (EC) No 1069/2009)

Premixture 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 (Regulation (EC) No 1831/2003)

Primary production of feed means the production of agricultural products, including in particular growing, harvesting, milking, rearing of animals (prior to their slaughter) or fishing resulting exclusively in products which do not undergo any other operation following their harvest, collection or capture, apart from simple physical treatment (Regulation (EC) No 183/2005)

Processing aids means any substance not consumed as a feedingstuff by itself, intentionally used in the processing of feedingstuffs or feed materials to fulfil a technological purpose during treatment or processing which may result in the unintentional but technologically unavoidable presence of residues of the substance or its derivatives in the final product, provided that these residues do not have an adverse effect on animal health, human health or the environment and do not have any technological effects on the finished feed (Regulation (EC) No 1831/2003)

Raw petfood means petfood containing certain Category 3 materials which have not undergone any preservation process other than chilling or freezing (Regulation (EU) No 142/)

Stage of production, processing and distribution means any stage, including import, from and including the primary production of a food, up to and including its storage, transport, sale or supply to the final consumer and, where relevant, the importation, production, manufacture, storage, transport, distribution, sale and supply of feed (Regulation (EC) No 178/2002)

Traceability means the ability to trace and follow a food, feed, food-producing animal or substance intended to be, or expected to be incorporated into a food or feed, through all stages of production, processing and distribution (Regulation (EC) No 178/2002)

3. Basic Conditions

3.1 Responsibility

It is the full responsibility of the feed producer to ensure the safety of feed materials, i.e. that they are not harmful or in any way unsuitable as feed. Regulation (EC) No. 178/2002 requires the feed business operator to inform the competent authorities immediately when a feed that does not comply with the requirements for feed safety is released onto the market. The feed business operator must also have a system for traceability at all stages in the production, processing and distribution chain and a course of action enabling the immediate removal of the product from the market. In order to make this possible it is necessary to ensure traceability both one step backwards and one step forwards in the chain. The role of the authorities is to ensure that the legal requirements are met. An important part of this is checking that the requisite functioning systems are in place to control feed safety, i.e. through an audit of the feed business operator's monitoring programmes.

3.2 Documentation

Adequate documentation is necessary to enable an assessment of feed safety control when carrying out a system audit etc. The following are general documentation requirements:

- Written operating instructions for all routines which can affect feed safety should be easily accessible for personnel in conjunction with the purchase of input goods, production of feed materials and the sale of the same.
- The test readings and operations should be recorded to a suitable extent so as to enable monitoring of changes, verification that routines are being followed and, if necessary implementation of trouble-shooting.
- Practical routines for reporting deviations should be set up.
- Measures taken in case of deviation should be documented.
- In the event of repeated deviations, corrective measures should be carried out to investigate and prevent the repetition of similar deviation.
- There should be a filing system for documentation records. The filing time for different types of documents and information should be stipulated.
- If information is stored electronically, requirements for data security should be fulfilled:
 - Back-up routines should be set up.
 - Information (about customers, suppliers, material origins, sold feedstuffs, etc.) should accessible at a few hours' notice if necessary.

- In the case of a change in data systems, it must be ensured that older information can be accessed quickly.

3.3 Traceability

It is important that that the raw materials and feed materials can be traced if necessary. There should be suitable routines in place for facilitating traceability and routines to enable removal of feed materials from the market if these represent a risk to animal or human health. In the event that a feed material is suspected of not complying with feed safety requirements, the feed producer's customers must receive immediate information on why the feed has been recalled. The Swedish Board of Agriculture should also be informed immediately using Form D51, which can be submitted electronically to rasff@jordbruksverket.se and by telephone (+46 771-800 900; official on call) in serious cases.

3.4 Principles for safe production

Principles for safe production are based on ensuring...

- That the principle of precaution is followed, that is to refrain from the use of any substance that has not been unequivocally proven harmless.
- That the personnel are adequately trained in the manufacture of feed and feed raw materials and that efforts are made to minimise the likelihood of introducing anything undesired into the feed through the working environment, feed manufacturing process, additives and raw materials, workers' hygiene, cross-contamination etc.
- That a well-implemented, documented and maintained HACCP (Hazard Analysis and Critical Control Points) system exists, which should also take into consideration the seven principle in Codex Alimentarius, see item 4.9. The HACCP system should also allow room for the flexibility which can be necessary in different situations. Hazard analysis is used to identify possible risks and thus prevent or limit them so that they do not pose a risk to production.

3.5 Transport

Irrespective of the form of transport used, whether by car, train or boat, the haulage company and the transporter are responsible for ensuring that the equipment used for transport meets the requirements on feed safety (Regulation (EG) 183/2005). During loading, transport and unloading of feed (including feed raw materials), in bulk or bagged, the necessary precautions must be taken to ensure that the product does not come into contact with pathogenic microorganisms, foreign chemicals or physical objects that can compromise the safety of the product. For all transport, a hazard analysis should be carried out by the person responsible for transport. This hazard analysis should ensure that effective preventative measures and controls are in place for all potential hazards. If external haulage companies are used, these must be registered with the Swedish Board of Agriculture and must be well informed about these national guidelines as regards transport.

Based on a hazard analysis, regular audits should be carried out at external haulage companies.

3.5 Decontamination plan

Following a serious incident and when the need for decontamination arises, e.g. after an outbreak of salmonella, a thorough decontamination plan should be worked out together with personnel with the proper skills and knowledge. The plan should be tailored to each establishment, since every feed manufacturing facility differs markedly depending on the kind of feed produced, the age of the facility, equipment, etc.

Decontamination can be divided into the following general steps:

1. Defining which parts of the facility are in immediate need of decontamination by locating the contagion/pollutant through initial testing.
2. Removing all feed material from the system.
3. Moving loose equipment and dismantled parts to a special sanitation location or destruction.
4. Carrying out thorough mechanical cleaning of the feed system and the surrounding area.
5. When sanitising to eliminate a contagious substance, chemical disinfection using a suitable disinfection agent may be necessary. To ensure successful disinfection it is important to contract the right expertise, e.g. a respected sanitation firm.

There is a fundamental difference in how decontamination should be carried out depending on the type of feed material produced – wet or dry. When sanitising premises where dry feed is manufactured, the use of water as a cleansing agent is completely unsuitable. In the case of a feed company manufacturing wet feed, clean-up operations can involve rinsing and then washing the pipes, tanks etc. with hot water and detergent.

4. National guidelines to good practice for feed material producers

For quick access to the relevant legislation for each item in Chapter 4, follow the links under “Legislation support”.

4.1 Application for registration/approval of feed production facility

Legislative support:

Regulation (EC) No 183/2005

[SJVFS 2006:81 \(reprint 2011:40\)](#)

Feed business operators must register all the feed production facilities for which they are responsible and which operate in any stage of the production, processing, storage, transport or distribution of feed. Applications for registration should be made to the Swedish Board of Agriculture using form D7 (feed manufacturers and import companies) or form D187 (mixing services, transport or those producing feed for food-producing animals) at least 15 days before work begins.

Significant changes in operations or closure of a facility must be reported to the Swedish Board of Agriculture at least 15 days before the change comes into force.

Feed suppliers are required to register all individual products with the Swedish Board of Agriculture. An application should be submitted on form D119 at the latest on the day prior to the product being available on the market.

For the following feed handling operations, approval is also required from the Swedish Board of Agriculture for the facility where the products are handled:

- Producers of feed additives
 - All additives in the group Nutritional additives
 - All additives in the group Zootechnical additives
 - The group Technical additives: All additives with a specified highest permissible content belonging to the functional group ‘Antioxidants’
 - The group Organoleptic additives: Carotenoids and xanthophylls
- Producers of premixes
 - The group Nutritional additives: Vitamins A and D, copper (Cu) and selenium (Se)
 - The group Zootechnical additives: All additives belonging to the functional group ‘Other zootechnical additives’
 - All additives in the group ‘Coccidiostatics and histomonostatics’
- Produced of feed mixes
 - The group Zootechnical additives: All additives belonging to the functional group ‘Other zootechnical additives’

- All additives in the group ‘Coccidiostatics and histomonostatics’

In addition, prior approval is required for:

- Inclusion of pharmaceuticals in the feed and storage of feed containing pharmaceuticals
- Storage of pharmaceuticals (permit from the Medical Products Agency)
- Use of fish meal, di- and tricalcium phosphate, blood and blood products in feed mixtures
- Storage at the feed production facility of processed animal protein imported from other countries
- Processing of raw vegetable oil (apart from those covered by Regulation (EC) No 852/2004)
- Oleochemical production of fatty acids
- Production of biodiesel
- Mixing of fats

4.2 Planning of production premises and process equipment

Legislative support:

Regulation (EC) No 183/2005

Production premises should be planned and laid out with special consideration to feed safety so as to avoid contamination from the surroundings and to facilitate cleaning operations. The design, size and location of the plant, building materials, construction and equipment and the positioning of equipment should be chosen with feed safety in mind.

Production premises need to be designed so as to minimise the risk for accumulation of dust and dirt, growth of microorganisms, emission of particles or chemical substances, corrosion or condensation which in turn can contaminate the products. This can be achieved by choosing appropriate materials and construction methods.

Premises should be easy to maintain, clean and disinfect if necessary.

Premises should be designed to prevent problems with vermin.

Premises should have adequate lighting.

Care should be taken when using glass and rigid plastic for lights and windows.

To avoid contaminating processed feed materials with non-processed raw materials, the processed and unprocessed materials should be handled completely separately. Risk of contamination from loaders and other equipment should be assessed and observed.

Wells and drains should only be located in places that can be wet-cleaned. They should be intact, easy to clean and used regularly to keep them from drying out.

4.3 Process description and flow sheet

Legislative support:

Regulation (EC) No 178/2002

Regulation (EC) No 183/2005

The process description should be in written form and should contain all the relevant information necessary to get an idea about manufacturing a specific feed material. It should contain a description of all the steps in production with information about the raw materials, additives and processing aids, as well as the temperatures and the holding times at different process stages. The different production steps should be placed on a flow sheet, from the raw materials right up to the finished feed product. This flow sheet should be used to chart vulnerable, critical steps in the production process following HACCP principles, see also item 4.9.

Measures must be taken to ensure that operations comply with the flow sheet and process description at all levels and at all times and that the flow sheet/process description is altered when the need arises. Confirmation that the flow sheet/process description is correct should be obtained from person/s with the necessary knowledge of the actual process conditions.

For more information concerning process description and flow sheets, see The Codex Alimentarius Commission document CAC/RCP, 1-1969, Rev.4 (2003).

4.4 Personnel and competence

Legislative support:

Regulation (EC) No 183/2005

The management is responsible for employing an adequate number of personnel and for ensuring that personnel involved in operations that can have an impact on feed safety are trained in feed hygiene, hygiene risks and the consequences. Furthermore, it is imperative that everyone understands the importance of preventative routines and how they are applied in everyday work, so that operations can be carried out in a way that guarantees good hygiene. To ensure this, all personnel should have access to precise, written information on work routines, areas of responsibility and authority.

One person in each business must have overall responsibility for production. This person must ensure that the different steps in production are carried out according to prior established written procedures and instructions, so as to secure and control the critical phases of the manufacturing process. The business must also have a person who is responsible for quality control, see item 4:18.

All personnel should have their training needs identified and documented in a personal development plan. Plans for training courses should be set up and implemented. Complete records of each person's training should be kept. Those working with manufacturing or handling raw materials and products or who in any way come in contact with feed materials or who work with phases in the chain that can have an impact on the hygienic quality should be given appropriate training in basic feed hygiene.

Comprehensive plans for training in connection with recruitment of new employees and for in-service training should be set up for these personnel categories. For short-term employees, e.g. holiday replacement staff, clear adequate information needs to be provided to ensure that they can carry out their tasks in a safe way. Personnel who set up, maintain and carry out HACCP analyses should be trained in HACCP principles.

4.5 Access to a qualified laboratory

Legislative support:

Regulation (EC) No 183/2005

[SJVFS 2006:81 \(reprint 2011:40\)](#)

Analysis procedures are a tool in working with hygiene and quality. Analyses are used as:

- Control instruments*. Fundamental to a hygiene and quality system is the ability to carry out checks and controls on production so as to ensure feed safety and integrity.
- Verification measurements*. Verification measurements are carried out as a follow-up to verify the control instruments.

Analysis operations should be set up so as to obtain correct measurements in terms of integrity and feed safety.

Normally three main groups of analyses are used:

- Physical analyses
- Chemical analyses
- Microbiological analyses

These involve different types of requirements with regards testing, analysing and interpreting results.

Analyses can be carried out by the feed product manufacturer either in their own laboratory and/or process plant, in another laboratory within the business or by an external laboratory.

4.6 Routines and frequency of inspection, cleaning and maintenance

Legislative support:

Regulation (EC) No 183/2005

Well-functioning equipment and premises are basic requirements for hygienic production. Scheduled maintenance is an important aspect and there needs to be a system in place for preventative maintenance. Planning and routines for maintenance of premises and equipment should be based on experience and hazard analysis.

Regular inspection of critical control points in the production environment (identified according to item 4.9) should be carried out. Routines and frequency should be described and documented for different objects.

Particular importance should be placed upon identifying and maintaining critical equipment and processing, such as the chilling of warm, moist products when slight condensation can occur.

Feed safety must be maintained in connection with maintenance, new installations and renovations, where the production facility must have clear routines for e.g. external personnel so that they are familiar with and follow the business's hygienic routines.

4.7 Programme for pest control

Legislative support:

Regulation (EC) No 183/2005

There should be a programme for pest control aimed at preventing and eradicating pests. The pest control programme should be set up in consultation with a qualified firm or by a qualified person in the feed production facility. Working routines should be documented and the results and measures taken entered in a journal. There should be rules established for how pest control can be implemented.

4.8 Specifications for raw materials, additives and processing aids

Legislative support:

Regulation (EC) No 178/2002

Regulation (EC) No 183/2005

Purchased materials can be crucial to the overall quality of the feed product. For this reason, it is important that demands are placed on suppliers of raw materials to have an adequate internal control and that they are also inspected from time to time as part of the feed production facility's quality control. Quality and environmental disturbances due to mistakes or deviances in purchased products can lead to disturbances in production or to deterioration in feed safety.

In order to prevent this happening, specifications should be set up to stipulate chemical, microbiological and other parameters of importance for feed safety. These specifications should be aimed at describing and ensuring that the raw materials, additives and processing aids maintain high and consistent quality. To achieve this, it is best to choose suppliers who comply with the HACCP programme.

The feed producer is responsible for ensuring that the product they deliver is safe and for conducting a risk analysis according to HACCP (see item 4.9) to assess and monitor the risks of the presence of forbidden feed, foreign substances and other contaminants in the incoming raw materials, additives and processing aids.

Raw materials, additives and processing aids not suitable for feed must be treated appropriately and not used as feed.

4.9 Identification of risks in production according to HACCP principles.

Legislative support:

Regulation (EC) No 178/2002

Regulation (EC) No 183/2005

The HACCP (Hazard Analysis and Critical Control Points) system is based on scientific grounds and is systematic. It identifies specific hazards and measures to control these risks to ensure feed safety. HACCP is a tool for evaluating hazards and establishing a control system aimed at preventative measures rather than mainly relying on testing end products. Each HACCP system can be adapted to changes, such as improved equipment design, processing techniques or technical development.

Successful application of HACCP demands whole-hearted commitment and the involvement of both management and staff. An inter-disciplinary approach is also necessary and management and staff must have the necessary skills and knowledge of HACCP. Small and/or lesser developed businesses, without the resources and expertise needed to develop and carry out an effective HACCP plan, can take in expert advice from other sources.

A HACCP system is made up of seven principles:
(according to the Codex Alimentarius Commission document CAC/RCP, 1-1969, Rev.4 (2003))

- **Principle 1**
List all potential hazards associated with each step, conduct a hazard analysis and consider any measures to control identified hazards
- **Principle 2**
Determine Critical Control Points, CCPs
- **Principle 3**
Establish critical limit(s) for each CCP
- **Principle 4**
Establish a monitoring system for each CCP
- **Principle 5**
Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control
- **Principle 6**
Establish procedures for verification to confirm that the HACCP system is working effectively
- **Principle 7**
Establish documentation concerning all procedures and records appropriate to these principles and their application.

According to EC regulation No 1831/2003 regarding the establishment of requirements for feed hygiene, each feed producer (excepting primary producers with the kinds of operations listed in item 5.1 in Regulation (EC) No 1831/2003) should set up, follow and maintain written procedures based on HACCP principles.

For more information concerning process description and flow sheets, see The Codex Alimentarius Commission document CAC/RCP, 1-1969, Rev.4 (2003).

4.10 Product information

Legislative support:

Regulation (EC) No 767/2009

Regulation (EU) No 142/2011

SJVFS 2006:81 (reprint SJVFS 2010:40)

SJVFS 2006:84 (reprint SJVFS 2010:21)

All feed materials should be accompanied by or labelled with proper information so that the next person in the food chain is able to handle, present, store, process and use the product safely and correctly. Names or supplementary description should not be misleading in terms of the feed material's true identity. Information about the feed material must clearly state the species or categories of animals for which the feed is intended and how the feed product should be handled/used.

In the case of manufacturing animal by-products and processed products derived from these, commercial documents should accompany the product. These commercial documents should be drawn up according to Regulation (EU) No 142/2011. When moving animal products between EU countries or importing them from countries outside the EU, in certain cases there is a requirement for such movements to be registered in Traces. For more information, see The Swedish Board of Agriculture website, under the heading 'Traces'

For certain feed products consisting of animal by-products there can be restrictions and qualifications for the recipient, requiring the recipient be authorised before using the product. The recipient is responsible for obtaining the proper authorisation. For more information see SJVFS 2006:84 (reprint SJVFS 2010:59) and [Regulation \(EU\) No 142/2011](#).

4.11 Traceability for raw materials and delivered feed materials

Legislative support:

Regulation (EC) No 178/2002

Regulation (EC) No 183/2005

A system for traceability should be set up in compliance with legislation and put into practice in the facility according to Regulation (EC) No 178/2002. The individual feed producer's legal responsibility stretches from the physical or juridical person immediately prior to the business immediately following the feed chain. Traceability should be documented one stage backwards and one stage forwards. All suppliers of raw materials, ingredients and processing aids should also follow procedures to ensure a corresponding degree of traceability. In addition, importers and transporters are subject to the traceability requirements. Further information about traceability can be found in the European Commission's guide to Regulation (EC) No 178/2002.

4.12 Routines for follow-up in the case of customer complaints

Legislative support:

Regulation (EC) No 183/2005

According to Regulation (EC) No 183/2005, which stipulates requirements for feed hygiene, all feed producing businesses are required to set up a system to register and handle customer complaints. If necessary, there must be a system in place to enable quick recall of products that have been released from the facility. There must also be written instructions outlining exactly how the recalled products will be dealt with.

If a feed business operator believes, or has grounds to believe, that a raw material or a feed material, be it imported, produced, processed, manufactured or distributed, does not meet the requirements for feed safety, this product must be immediately removed from the market and the Swedish Board of Agriculture must be informed (see also item 3.3).

4.13 Reference samples

Legislative support:

Regulation (EC) No 183/2005

Samples of risk ingredients and of each batch of products manufactured and placed on the market or of each specific portion of production (in the case of continuous production) must be taken in sufficient quantity using a procedure pre-established by the manufacturer and be retained, in order to ensure traceability. The samples must be sealed and labelled for easy identification. They must be stored under conditions which prevent any abnormal change in the composition of the sample or any adulteration. They must be kept at the disposal of the competent authorities for a period appropriate to the use for which the feed is placed on the market.

In the case of feedstuffs for animals not kept for food production, the manufacturer of the feedstuff must only keep samples of the finished product.

4.14 Transport

Legislative support:

Regulation (EC) No 183/2005 of the European Parliament and of the Council

Transport of feed or feed or feed raw materials (by car, train, boat or air), must be appropriate for the purpose and the following points must be considered:

- The haulage company must be registered with the Swedish Board of Agriculture using form D185, see also item 4.1. The exception is primary producers who haul the feed/feed raw materials themselves, for whom it is sufficient that the feed production facility is registered with the Swedish Board of Agriculture
- Processed feed raw materials must be kept separate from unprocessed original material or unprocessed feed raw materials
- Feed must be stored and transported in suitable containers and personnel must be available to inspect the container before loading. The load container must be clean, dry (when necessary), odour-free and free from possible contaminants from previous loads or cleaning products. All inspections performed should be documented

- Documentation should be available showing the three previous loads (for every load container with different types of loads) and any cleaning carried out in between these loads
- For bulk transport, cleaning must be carried out in accordance with Appendix I and must be documented¹
- If a lorry has different load compartments, these must be clearly identified and labelled to prevent confusion or cross-contamination between different products
- The transporter must protect the load compartments from rain and other contaminants based on a hazard analysis
- Verified checks, deviations and, if necessary, corrective measures must be documented in writing
- In order to ensure traceability, all documentation should be archived for an appropriate period (see Appendix 2).
- When the customer is responsible for transport, the customer must be contacted if the transport does not meet the requirements listed above. In such cases, written consent on loading must be obtained from the customer before loading commences.

4.15 Sampling and analysis

Legislative support:

Regulation (EC) No 178/2002

Regulation (EC) No 183/2005

Regulation (EC) No 396/2005

Directive 2002/32/EC

SJVFS 2006:81 (reprint SJVFS 2011:40)

The feed business operator is responsible for ensuring that there is an appointed person at the facility who is responsible for and trained in interpreting analysis results. There must also be personnel in the company qualified to conduct sampling for different purposes. Qualification requirements for different tasks involved with sampling and analysis should be defined and specified.

There should be written instructions on how sampling should be conducted for different purposes. These should ensure:

- That selected samples are relevant to the purpose of the test
- That the sample is not contaminated during the sampling

It is desirable for documentation of results to be carried out so that trends can be distinguished. This offers an opportunity to analyse deviations from set norms vis à vis the trend. Trends should be analysed even if the set limits are not exceeded.

Test results should be interpreted with reference to the sampling and analysis conditions. The analysis task is not complete until the result has been communicated to the person responsible.

Results can be communicated in the form of deviation reports or trend curves.

Deviation reports must be submitted in writing.

In the case of known or suspected transgression of legal limits, measures must be taken and customers who have received the feed product and the appropriate authorities must be notified. All measures taken must be documented. The legal limit for foreign substances in feed, thresholds for active measures and standards for hygienic quality are specified in Appendix 1, Appendix 10 and the general advice in Swedish regulation SJVFS 2006:81.

4.16 Routines for preventing mix-up or cross-contamination between deficient and good quality products

Legislative support:

Regulation (EC) No 183/2005

There must be routines to prevent mix-ups or cross-contamination between deficient and good quality feed materials and for handling waste and products not intended for feed so that they do not present a risk for the feed product. There should be a written plan outlining measures to be taken in the case of deviation, with regard to feed safety, in different cases such as:

- If the product still remains at the feed business facility
- If the product has reached the farm/customer

There must also be a written plan specifying how removal (and possible processing) of inferior raw materials, feed materials or recalled feed products should be handled.

4.17 Regular updating of the control programme

Legislative support:

Regulation (EC) No 183/2005

Routines for the review of the control programme should be set up. A review of the HACCP system's application should take place at least once every three years, and also whenever changes occur that are deemed to affect the feed safety of the business (process modifications, recipes, renovations, changes in product flows etc.) or if there are new scientific findings or changes in the legislation. If the system reveals that feed safety is not optimal, changes must be made.

4.18 Person/position responsible for feed safety

Legislative support:

Regulation (EC) No 183/2005

There must be one person in each feed production facility who is responsible for feed safety routines. This person is also responsible for ensuring that the HACCP system functions and that the necessary corrective measures are taken and documented.

5. Revision and updating of national guidelines

VFK takes responsibility for an annual review of the national guidelines and for their revision if necessary.

Appendix 1

Appendix 1. Cleaning requirements for different product categories in the previous load

Feed must be stored and transported in suitable containers and personnel must be available to inspect the container before loading. The load container must be clean, dry (when necessary), odour-free and free from possible contaminants from previous loads or cleaning products. Depending on previous load, there are five different types of cleaning requirement. If the present and previous load consist of the same type of feed, simpler cleaning may be applied.

<i>Method</i>	<i>Procedure</i>
A. <i>Dry cleaning</i>	<p>To be applied when the three previous loads do not pose any risk of contagion to the feed product</p> <p>Important to consider:</p> <ol style="list-style-type: none"> 1) Dry cleaning using an industrial vacuum cleaner (preferred option) or pressurised air (avoid dust creation as much as possible) 2) Manual dry cleaning of areas difficult to access (corners, edges etc.) with a brush/broom or similar <p>If residues of the previous load are visible on completion of dry cleaning, it may need to be complemented with some form of wet cleaning (see below).</p>
B. <i>Wet cleaning with water</i>	<p>To be applied when the previous load does not pose any microbiological risk, for liquid feeds/feed raw materials with a fat content <6% and if there are traces of the previous load/s that cannot be removed using approach A.</p> <p>Important to consider:</p> <ol style="list-style-type: none"> 1) Any residues of the previous load should be removed (where possible) with an appropriate dry cleaning method before water is used. 2) Distribute small amounts of water (cold or warm as deemed appropriate) on the surface to be cleaned, particularly in areas that are difficult to access (corners, edges etc.). If necessary, use a brush/broom or similar to remove product residues adhering to surfaces. 3) Use a high pressure hose to clean the entire surface, check carefully that the water reaches difficult to access areas (corners, edges etc.). The water pressure should be at least 25 bar. If product residues are still adhering to surfaces or if the previous load/s was an agricultural chemical (e.g. chemical fertiliser), use water with a temperature of at least 60°C (with the aim of removing chemical residues more easily). The surfaces cleaned must be free-draining.

- 4) Let dry fully (using warm air if deemed necessary).

To be applied when the previous load does not pose any microbiological risk, for liquid feeds/feed raw materials with a fat content $\geq 6\%$ and if there are traces of the previous load/s that cannot be removed using approach B.

Important to consider:

- 1) Any residues of the previous load should be removed (where possible) with an appropriate dry cleaning method before water and a cleaning agent are used.
- 2) Apply warm water with a temperature of around 60° C to the surface to be cleaned, particularly in areas that are difficult to access (corners, edges etc.). Use a brush/broom or similar to remove product residues adhering to surfaces. Be careful not to use water with a temperature much higher than 60°C (risk of proteins coagulating and sticking fast to the surface).
- 3) Use an appropriate cleaning product and follow the manufacturer's instructions. Cleaning systems such as CIP (Clean-In-Place) may be used if possible, but check that the cleaning reaches areas that are difficult to access. Complement with manual cleaning if necessary.
- 4) Rinse off the cleaning agent with water with a temperature of at least 60°C. Check regularly using a suitable test (e.g. pH measurement when using acid) to ensure that there are no cleaning agent residues left after cleaning is completed.
- 5) Let dry fully (using warm air if deemed necessary) if the transport container is going to be used for dry feed products.

C.
***Wet cleaning
with water
and cleaning
agent***

To be applied when the previous load might pose a microbiological risk (e.g. suspected/confirmed Salmonella, obvious signs of decay, presence of pests etc.).

Important to consider:

- 1) Apply steps 1-4 in approach C. Be careful not to spread any infection and take the necessary measures for handling waste!
- 2) Use a suitable disinfectant and follow the manufacturer's instructions. The product must be designed for the food/feed industry and the desired effect must be proven. Please note that a contact time of 5 minutes is normally required to achieved the desired disinfection effect.
- 3) Rinse off the disinfectant residues with water. All residues should be removed if possible.
- 4) If necessary, let dry fully (using warm air if needed).

D.
***Wet cleaning
with water,
cleaning
agent and
disinfectant***

Disinfectants for dry conditions are available, but their effectiveness must be proven in a credible way.

To be applied for transport of feed raw material from dairies.

Important to consider:

E. Cleaning of tankers that transport liquid milk-based products

- 1) The main rule is to CIP-clean the tanker at a temperature of around 60°C between every load!
- 2) Use a suitable cleaning agent and follow the same programme as after cleaning off unpasteurised milk.
- 3) For products containing particles that can sediment (e.g. cheese crumbs, fruit pulp etc.), a pre-wash must be carried out before CIP-cleaning.
- 4) After cleaning, verify the results by e.g. a visual check of the vehicle and a test on the last rinse water.
- 5) Depending on previous load, exceptions to the rule on cleaning between every load may be permitted, with clear written rules based on a risk assessment.

Guidelines on the approach (A-E) to be used

<i>Previous load</i>	<i>Approach</i>
1) Material that can be a direct hazard to animals (e.g. hazard-labelled chemicals or their empty packaging, sewage sludge, sharp foreign objects etc.)	Feed must not be transported ¹
1) ABP Categories 1-2 (definition according to Regulation (EC) No 1069/2009 and Regulation (EU) No 142/2011)	Feed must not be transported ¹
1) ABP Category 3 (definition according to Regulation (EC) No 1069/2009 and Regulation (EU) No 142/2011)	Feed may be transported according to the terms specified in Regulation (EU) No 142/2011
1) Pasteurised dairy products	E
1) Solid and liquid material that can pose a microbiological risk (e.g. suspected/confirmed Salmonella, obvious signs of decay, presence of pests etc.)	D

¹ För att friförklara transporten, kontakta Jordbruksverket för mer information.

¹ För att friförklara transporten, kontakta Jordbruksverket för mer information.

<ol style="list-style-type: none"> 1) Solid and liquid material that does not pose a microbiological risk, but with possible presence of undesirable chemical compounds. 2) Water insoluble material. 3) Material with fat content $\geq 6\%$. 4) Material that readily adheres to surfaces. 	C
<ol style="list-style-type: none"> 1) Solid and liquid material that does not pose a microbiological risk, but with possible presence of water-soluble undesirable chemical compounds 2) Material with fat content $< 6\%$ but that can readily adhere to surfaces. 	B
<ol style="list-style-type: none"> 1) Solid material that does not pose a microbiological risk, with no knowledge/suspicion of undesirable chemical compounds and otherwise healthy. 	A

Appendix 2.

Appendix 2. Summary of the requirements on documentation

The table below summarises the documentation needed to meet the requirements for food and feed safety associated with the items covered in these national guidelines. In some cases the regulations state how long the documentation should be saved. When the regulations do not state this, the sector recommends an appropriate period. Note that there are general recommendations from the European Commission on saving documents for 5 years.

Reference to item in these guidelines	Documentation	Period (available)	Legislation
4.4	Personnel qualifications /competence	Entire employment period	(EC) No 183/2005
4.6	Cleaning journals	2 years ¹	(EC) No 183/2005
4.7	Reports on pest control	5 years	(EC) No 183/2005
4.8	Specifications from suppliers	Valid specifications/ max 3 years old ¹	(EC) No 183/2005
4.10	Trading documents on delivery of animal by-products to be used as feed	2 years	(EC) No 1069/2009 (EU) No 142/2011
4.11	Traceability	5 years	(EC) No 178/2002 (EC) No 183/2005
4.11	Traceability (pharmaceutical inclusion)	3 years	SJVFS 2006:81
4.12	Rejects	5 years	(EC) No 183/2005
4.14	Transport	5 years	(EC) No 183/2005
4.15 (and 4.5)	All results from analyses and controls that can affect feed safety. Calibration of analytical instruments.	5 years	(EC) No 178/2002 (EC) No 183/2005

1 – Sector recommendations

VFK – The Association for Safe Feed Materials ...

... is an association of feed and feed material producers that sets high requirements on the feed products delivered. VFK works in a preventative approach and on a voluntary basis to improve the quality of feed products produced by its members. Most members are food companies who also supply feed materials.