European Guide to good practice for the industrial manufacture of safe feed materials

Sectors: oilseed crushing, oil refining and starch processing

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SECTION 1 INTRODUCTION

This European Guide of good practice for the industrial manufacture of safe feed materials is in line with the Regulation of the European Parliament and the Council laying down requirements for feed hygiene (Regulation 183/2005/EC), in particular articles 20 to 22 which encourage the development of guides to good practice on hygiene and the application of HACCP principles.

Implementation of the Guide aims to encourage measures to be put in place to ensure the safety of feed materials; the operation of businesses in accordance with European feed hygiene requirements and the Codex Alimentarius, and improved traceability.

This Guide has been developed in the framework of the European Feed Ingredients Platform, EFIP: www.efip-ingredients.org in consultation with the compound feed manufacturers association, FEFAC (See Appendix 1 for more details). This Guide has been developed in the spirit of being comparable and/or compatible with other guides or codes of practice, in line with the *EFIP Feed Ingredients standard for sector guides (Benchmark Code)*[1]*.* This benchmark code is meant to serve as a transparent and objective basis for comparison and mutual recognition of feed safety management systems.

Livestock production plays an important role in agriculture in the European Community. Its viability depends on consumer trust in the safety of the animal products produced and on the availability of feed that has no adverse effect on the health of the animals kept.

The European Union has established a very robust regulatory system that aims to ensure safety throughout the feed chain. This regulatory system comprises general principles for the operators and authorities involved, hygiene rules for the operators, norms for the safety of feed products and rules for controls by authorities. This new legal framework provides for the necessary harmonisation of feed safety rules at the level of the European Community. The goals set can only be met with the full commitment of the operators involved. Sector associations can play a role in supporting their operators in achieving these goals.

It is a basic principle of food/feed law that each operator in the chain must accept its own responsibility in providing safe products. The legislation prescribes the measures which the operator must implement to achieve this. The operator will apply these generically formulated rules and, by doing this, the operator adapts the rules to serve feed safety from a company perspective. This activity can be harmonised at sector level, the result of which should be transparent to all partners in the chain. The *founding principle* of this Guide is therefore *subsidiarity of food and feed chain safety* and self-management of feed safety.

Provisions of this Guide were developed in line with the current provisions of guidance documents already or in progress of being applied by several sectors of the European feed chain. This Guide was also developed in line with some of the management precepts laid down in ISO22000:2005.

[1] See www.efip-ingredients.org/Default_files/page0001.htm

This Guide is aimed to ensure an equivalent level of protection against feed hazards, as foreseen in the legislation.

The fact that the HACCP approach as a food hazard control management tool has been widely and successfully implemented in food processing plants has highlighted its potential to adopt a similar approach within the feed industry. But HACCP principles alone are not self-sufficient and if the benefits of such an approach are to become a reality, this must be backed-up by a management system, traceability procedures (as laid down in Regulation (178/2002/EC) and communication between feed business operators and a given sector. Such approach requires internal monitoring and control of all feed production and distribution steps.

The text of the Guide is designed to set out general requirements and to be used by operators as a reference tool when to develop their feed materials safety management system.

This Guide will be submitted to periodical review in line with emerging/ new relevant technological, scientific and legislative developments or statutory modifications in the sectors.

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2 SCOPE, PURPOSE AND DEFINITIONS

2.1 Scope and purpose: use of this guide

The aim of this European Guide is to ensure safety of feed materials by:

- Minimizing the risk, that unsafe feed materials enter the feed chain.
- Enabling an operator to implement the objectives of the feed hygiene regulation (Regulation 183/2005/EC).
- Providing measures to ensure that other applicable feed safety regulatory requirements are met.

This Guide covers the production of feed materials derived from oilseed crushing, oil refining and starch processing, starting from the entry point of incoming materials until the point of transfer of ownership.

This Guide does not cover primary production, production of additives or trading of feed materials.

This Guide was developed to meet the legitimate expectation of the compound feed industry to operate with safety-committed feed materials producers.

This Guide can only be applied by operators that produce feed materials on an industrial scale (hereafter "operator"). It is a publicly available document and its content can be voluntarily followed by any such producer.

Compliance with this Guide does not exonerate the operator from meeting the statutory or regulatory requirements in each country in which the operator is active.

2.2 Definitions applicable to this Guide

The following definitions are used in the Guide and associated annexes:

2.2.1 Legal Definitions

a) For the purpose of this document:

Batch: identifiable quantity of feed determined to have common characteristics, such as origin, variety, type of packing, packer, consignor or labelling; and in case of a production process a unit of production from a single plant using uniform production parameters or a number of such units, when produced in continuous order and stored together (Regulation 767/2009/EC).

Establishment: any unit of a feed business(Regulation 183/2005/EC).

Feed (or feeding stuff): any substance or product, including additives, whether processed, partially processed or unprocessed, intended to be used for oral feeding to animals (Regulation 178/2002/EC).

Feed additives: 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 following functions:

- Favourably affect the characteristics of feed;
- Favourably affect the characteristics of animal products;
- Favourably affect the colour of ornamental fish and birds;
- Satisfy the nutritional needs of animals;
- Favourably affect the environmental consequences of animal production;
- Favourably affect animal production, performance or welfare, particularly by affecting the gastro-intestinal flora or digestibility of feeding stuffs; or
- Have a coccidiostatic or histomonostatic effect.

(Regulation 1831/2003/EC and Regulation 183/2005/EC).

Feed business: any undertaking whether for profit or not and whether public or private, carrying out any operation of production, manufacture, processing, storage, transport or distribution of feed including any producer producing, processing or storing feed for feeding to animals on his own holding; (Regulation 178/2002/EC and adapted). See 'Stages of production, processing and distribution'.

Feed business operator: the natural or legal persons responsible for ensuring that the requirements of food/feed law are met within the feed business under their control. (Regulation 178/2002/EC and adapted). See 'Feed business'.

Feed hygiene: the measures and conditions necessary to control hazards and to ensure fitness for animal consumption of a feed material, taking into account its intended use (Regulation 183/2005/EC).

Feed materials: various products of vegetable or animal origin, whose principal purpose is to meet animals' nutritional needs, 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, in the

preparation of compound feeding stuffs or as carriers of premixtures (Regulation 767/2009/EC).

First placing on the market: the initial placing on the European Union market of a feed material after its manufacture or the import of a feed material (Regulation 1831/2003/EC and adapted).

Food (or Foodstuffs): any substance or product, whether processed, partially processed or unprocessed, intended to be, or reasonably expected to be ingested by humans.

'Food' includes drink, chewing gum and any substance, including water, intentionally incorporated into the food during its manufacture, preparation or treatment.

'Food' shall not include: feed; live animals unless they are prepared for placing on the market for human consumption; plants prior to harvesting; medicinal products; cosmetics; tobacco and tobacco products; narcotic or psychotropic substances; residues and contaminants (Regulation 178/2002/EC).

Hazard: biological, chemical or physical agent in the feed chain with the potential to cause an adverse health effect (Regulation 178/2002/EC).

Labelling: means the attribution of any words, particulars, trademarks, brand name, pictorial matter or symbol to a feed by placing this information on any medium referring to or accompanying such feed, such as packaging, container, notice, label, document, ring, collar or the Internet, including for advertising purposes (Regulation 767/2009/EC).

Operator: see feed business operator.

Placing on the market: means the holding of food or feed for the purpose of sale, including offering for sale or any other form of transfer, whether free of charge or not, and the sale, distribution, and other forms of transfer themselves (Regulation 178/2002/EC).

Processing aids: any substance not consumed as a feeding stuff by itself, intentionally used in the processing of feeding stuffs or feed materials to fulfil a technological purpose during treatment or processing which may result in the unintentional but technological unavoidable presence of residues of the substance or its derivatives in the final product, provided that these residues do not have any adverse effect on animal health, human health or the environment and do not have any technological effects on the finished feed (Regulation 1831/2003/EC).

Risk: a function of the probability of an adverse health effect and the severity of that effect, consequential to a hazard (Regulation 178/2002/EC).

Risk assessment: means a scientifically based process consisting of four steps: hazard identification, hazard characterisation, exposure assessment and risk characterisation (Regulation 178/2002/EC).

Stages of production, processing and distribution: 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 178/2002/EC).

Traceability: 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 178/2002/EC).

Undesirable substances: any substance or product, with the exception of pathogenic agents, which is present in and/or on the product intended for the animal feed and which presents a potential danger to animal or human health or to the environment or could adversely affect livestock production (Directive 2002/32/EC).

b) In this document the terms 'where necessary', 'where appropriate', 'adequate' and 'sufficient' shall mean respectively where necessary, where appropriate, adequate or sufficient to achieve the objectives of this Guide (Regulation 852/2004/EC and adapted).

2.2.2 Other definitions

For the purpose of this document:

Calibration: the demonstration that a particular instrument or device produces results within specified limits by comparison with those produced by a reference or traceable standard over an appropriate range of measurements.

Check/control: the state wherein correct procedures are being followed and criteria are being met (Codex Alimentarius).

Code of Practice: document identifying the principles of feed hygiene essential to ensure the safety of feed for animals and in turn the safety of animal products intended for human consumption.

Contaminant: any biological or chemical agent, foreign matter, or other substances not intentionally added to food or feed which may compromise food and/or feed safety or suitability (Codex Alimentarius and adapted).

Contamination: the introduction or occurrence of a contaminant in food/feed or food/feed environment (Codex Alimentarius and adapted).

Control Measure: any action and activity that can be used to prevent or eliminate a feed / food safety hazard or reduce it to an acceptable level (Codex Alimentarius and adapted).

Corrective Action: any action to eliminate the cause of a detected non-conformity or other undesirable situation (ISO 22000:2005).

Cross-Contamination: contamination of a material or product with another material or product.

Critical Control Point (CCP): a step at which control can be applied and that is essential to prevent or eliminate a feed / food safety hazard or to reduce it to an acceptable level (Codex Alimentarius and adapted).

Critical Limit: a criterion that separates acceptability from unacceptability (Codex Alimentarius).

Feed Safety: high level of assurance that the feed or the feed material will neither cause harm to the farm animals when prepared or consumed according to the

intended use, nor to the final consumer. Throughout the Guide, the word 'safety' is taken to have the same meaning as 'Feed Safety'.

Flow diagram: a systematic representation of the sequence of steps or operations used in the production or manufacture of a particular food or feed item (Codex Alimentarius and adapted).

HACCP (Hazard Analysis and Critical Control Point): a system which identifies, evaluates, and controls hazards to feed safety (Codex Alimentarius and adapted).

Hazard analysis: the process of collecting and evaluating information on hazards, and conditions leading to their presence, to decide which are significant for feed safety and therefore shall be addressed in the HACCP plan (Codex Alimentarius).

Incoming material: a general term used to denote raw materials delivered at the beginning of the production chain.

Intermediate product: any material which has been processed by the operator before the final product is obtained.

Manufacture/production: all operations encompassing receipt of materials, processing, packaging, repackaging, labelling, relabeling, quality control, release, storage, and distribution of feed materials and related controls.

Plan: to establish the objectives and processes necessary to deliver results in accordance with the operator's policies regarding quality and safety.

Prerequisite Program: specified procedure(s) or instruction(s), specific to the nature and size of the operation, that enhance and/or maintain operational conditions to enable more effective control of feed safety hazards, and/or that control the likelihood of introducing feed safety hazards to and their contamination or proliferation in the product(s) and product processing environment. Alternative terms for PRPs may be used. For instance, the terms Good Manufacturing Practice (GMP), Good Agricultural Practice (GAP) and Good Hygienic Practice (GHP). (ISO 22000:2005 and adapted).

Procedure: a specified way to carry out an activity or a process (ISO 9000:2005).

Quality: degree to which a set of inherent characteristics fulfils requirements (ISO 9000:2005).

Raw material: any material which enters the manufacturing process of the feed material.

Record: document stating results achieved or providing evidence of activities performed (ISO 9000:2005).

Requirement: need or expectation that is stated, generally implied or obligatory (ISO 9000:2005).

Rework: action on a nonconforming product to make it conform to the requirements (ISO 9000:2005).

Safety: see feed safety.

Shelf life: a defined time period for which a product fully complies with it is specification if stored appropriately.

Sign / Signature: confirmation of an authorized person in writing or by electronic means with controlled access.

Specification: document stating requirement (ISO 9000:2005).

Validation: obtaining evidence that the control measures will be effective (ISO 22000:2005).

Verification: confirmation, through the provision of objective evidence that specified requirements have been fulfilled (ISO 22000:2005).

Written documents: paper printed documents. These may be substituted by electronic, photographic, or other data processing systems provided that the data will be appropriately stored during the anticipated period of storage (archive) and can be made readily available in a legible form.

3 REQUIREMENTS ON THE FEED SAFETY MANAGEMENT SYSTEM

Any feed safety management system applied by the operator should be based on the three following pillars:

1) A management system based on a process approach and customer focus.

2) A prerequisite program to assist in controlling the likelihood of introducing hazards to feed products through the work environment, feed production process, input and incoming materials, workers hygiene, and cross contamination between products. The application of those good manufacturing practices shall include the feed hygiene requirements set in the EU Regulation (183/2005/EC) and related texts. The prerequisite programme shall be established, implemented and maintained regularly according to best hygienic practices.

3) An HACCP (Hazard Analysis Critical Control Points) system effectively put in place, implemented, documented and maintained. The HACCP system in feed materials production should take into account the seven principles set in the Codex Alimentarius. The hazard analysis is useful to identify all relevant hazards, of which some may be managed through the prerequisite program and others be put under control of specific CCPs as set out in the HACCP system.

HACCP and prerequisite program are dynamically interacting.

The pillars above may be combined into one single management system, such as required by ISO 22000:2005.

4 MANAGEMENT SYSTEM

4.1 Management responsibility

4.1.1 Management commitment, responsibility and policy

The management (from the higher management to the lower management) shall be committed to the implementation of the Guide in order to help ensure feed safety of products.

Management shall ensure that responsibilities and authorities are defined, documented and communicated within the organization.

The management shall:

a) Establish a feed safety policy, ensure that objectives are established and communicate the policy throughout the organisation.
b) Ensure that these objectives and policies are in compliance with this Guide and regulatory requirements.
c) Define and document the scope of the HACCP system, by identifying the product categories, production sites/process lines and outsourced activities which are covered by the system.

Staff appointed by management shall have defined responsibility and authority to:

a) Identify and record any problems with regard to product safety and the operator's HACCP system.
b) Initiate remedial measures and control of any such problems.
c) Initiate action to prevent the occurrence of nonconformities relating to product safety.

4.1.2 HACCP team leader: responsibility, authority and communication

Management shall appoint a HACCP-team leader who, irrespective of other responsibilities, shall organize the work of a HACCP-team and shall have the responsibility and authority to:

a) Ensure that the management system is established, implemented, maintained and updated in accordance with this Guide.
b) Report directly to the organization's management on the effectiveness and suitability of the management system.
c) Arrange relevant training and education of the HACCP-team members.

The HACCP-team leader shall be a management representative or have direct access to management.

Management shall provide adequate resources for the establishment, implementation, maintenance, updating and control of the feed safety management system. Adequate communication shall be in place to inform the HACCP team (leader) of significant changes in products or processes.

4.1.3 Management review

The management shall document verification measures taken to ensure that the feed safety management system is working effectively. These shall include planning, implementation and monitoring of processes which demonstrate product conformity. Monitoring processes shall include collection of measurements, analysis of data and, if relevant, measures to improve the effectiveness of the system.

A documented procedure shall define the structure(s) to identify and manage corrective measures, including:

a) Analysis of the cause of the non-conformity.
b) Definition of the corrective measure.
c) Tracking of the realisation of the measure.
d) Verification of the effectiveness of the measure, where appropriate.

All of the above steps shall be demonstrable by e.g. records or minutes of meetings.

Annually, the management shall review the implementation, effectiveness and validity of the feed safety management system by evaluating:

a) Actions resulting from previous management reviews.
b) Results of internal and external audits.
c) Results of the HACCP-verification.
d) Complaints and other customer feedback.
e) Implementation of major corrective and preventive measures.
f) Changes that could have an impact on the validity of the feed safety management system.

The output of the review shall address:

a) Conclusions on the implementation, effectiveness and validity of the feed safety management system.
b) Actions and objectives to improve the feed safety management system.

The report of the review shall be readily available.

4.2 Resource Management

4.2.1. Provision of resources

The management shall identify and provide the necessary resources so that the manufacture, processing and storage of products are carried out in an efficient and safe manner.

Feed materials businesses must have sufficient staff possessing the skills and qualifications necessary for the manufacture of the products concerned.

Management shall provide sufficient and appropriately designed infrastructure, work environment facilities, production areas and equipment.

4.2.2 Human resources

4.2.2.1 Organisational chart

The management shall establish an organisational chart. The responsibilities regarding feed safety shall be documented and kept updated.

4.2.2.2 Competency, awareness and education

All personnel carrying out activities affecting feed safety shall be competent and have the appropriate education, training, skills and experience according to the job description. Training programmes should be routinely reviewed and updated, where necessary.

The management shall:

a) Identify and define clearly the necessary skills and competences for personnel whose activities have an impact on feed safety in the job description.

b) Provide the necessary education and/or training according to the job description to ensure and maintain the fulfilment of these necessary skills.

c) Ensure that personnel responsible for monitoring feed safety processes are trained in proper monitoring techniques and the necessary actions to be taken when there is a loss of control of the processes.

d) Evaluate the effectiveness of the activities above.

e) Ensure that the personnel are aware of the relevance and importance of their individual activities in contributing to feed safety.

f) Ensure that personnel are aware of the necessity of effective communication.

g) Maintain appropriate records of education, training, skills and experience of all personnel having an impact on feed safety.

4.2.2.3 Personal hygiene

The management shall:

a) Ensure that personnel hygiene facilities are clearly and suitably designated, located and maintained.
b) Provide appropriate work wear such as protective clothing and safety footwear, where necessary and maintain them in hygienic conditions.
c) Clear rules on no- smoking and no- eating/drinking on site. If necessary, provide separate facilities for these.
d) Ensure that visitors and contractors respect the requirements regarding hygiene when visiting/ working on the site.

4.2.3 Infrastructure and work environment

The management shall provide the resources for the establishment and maintenance of the infrastructure needed to achieve conformity with the requirements of the management system.

4.2.3.1 Basic requirements

The management shall provide appropriate work environment in line with local, National and European Regulations to achieve product conformity.

4.2.3.2. Requirements for facilities, production areas and equipment

The management shall provide facilities and equipment of the appropriate lay-out, design, construction and size, be such as to avoid contamination, cross-contamination and any generally adverse effects on the safety of the feeds.

4.2.3.3 Facilities and production areas

The management shall provide, where necessary, ceilings and overhead fixtures designed, constructed and finished to prevent the accumulation of dirt and to reduce condensation, the growth of undesirable microorganisms and the shedding of particles that can affect the safety and quality of feed materials.

If necessary to keep rooms free of excessive steam and condensation, ventilation of sufficient capacity shall be provided.

Water, steam and air used in feed materials manufacture shall be of suitable quality. The management must be sure that the water or the steam which is used during the cleaning or in the production of the feed materials is safe for animals. The management must ensure that the water or steam used should not oppose any harm to the health of the animals.

Sufficient lighting will be provided throughout the facilities and production areas.

Drainage facilities must be adequate for the purpose intended; they must be designed and constructed to avoid the risk of contamination.

4.2.3.4 Equipment

The management should provide manufacturing equipment, located, designed, constructed and maintained to suit the manufacture of safe feed materials.

Where applicable, equipment must be placed away from walls to allow easy access for cleaning and to prevent pest infestation.

4.2.4 Control of monitoring and measuring devices

The management shall ensure that monitoring and measurement can be carried out in a manner consistent with documented procedures.
Where necessary to ensure valid results, measuring equipment shall:

a) Be calibrated or verified at specified intervals or prior to use, against measurement standards traceable to international or national measurement standards. Where no standards exist, the basis for calibration or verification shall be recorded.

b) Be adjusted or re-adjusted as necessary.

c) Be identified to enable the calibration status to be determined.

d) Where possible, be safeguarded from adjustments that would invalidate the measurement result.

e) Be protected from damage and deterioration during handling, maintenance and storage.

In addition, the management shall assess and record the validity of the previous measuring results when the equipment is found not to conform to requirements. The management shall take appropriate action. Records of the results of calibration and verification shall be maintained.

4.2.5 Maintenance

The operator shall provide planned maintenance in the factory. A plant maintenance program shall be in operation. A record shall be kept of work carried out. Lubricants used have to be food grade where applicable.

4.2.6 Cleaning and sanitation

The management shall install and document a cleaning program. Effectiveness of the program shall be demonstrated.

Ensure that all inside and outside areas, buildings, facilities and equipment are kept clean and in good state to function as intended and to prevent contamination.

The equipment must be designed to facilitate manual or ClP cleaning.

Containers and equipment used for the transport, storage, conveying, handling and weighing of feed materials shall be kept clean.

A schedule shall be implemented with method, agents used and frequency of cleaning including responsibilities for the tasks.

Agents shall be used and stored according to the manufacturer's instruction(s), clearly labelled, separately stored from incoming materials and finished products and applied properly to avoid contamination of incoming materials and finished products.

4.2.7 Pest control

The management shall provide a written plan for pest control including description of periodic inspections. Effectiveness of the plan shall be demonstrated.

A schedule shall be implemented with areas, facilities and equipment to be inspected including frequency as well as details of pesticides, fumigation agents or traps used as well as responsibilities for the tasks.

Pesticides, fumigation agents or traps used shall be suitable and comply with local Regulations for the purpose concerned, used and stored according to the manufacturer's instruction, clearly marked and separately stored from incoming materials and finished products and applied properly to avoid contamination of incoming materials and finished products.

The positions of traps and bait stations shall be mapped.

The HACCP plan shall consider the risk of contamination due to infestation or use of pesticides.

Spoilage and dust shall be controlled to prevent pest invasion.

The results of the pest control are part of the yearly management review.

When there is a potential for pest contamination external opening windows, roof vents or fan, where present, shall be insect screened. External opening doors shall be closed or screened when not in use.

4.2.8 Waste control

The operator shall control waste and materials containing hazardous levels of contaminants or other hazards. These shall be disposed of in an appropriate way to prevent contamination of the feed materials.

Where necessary to prevent such hazards:

a) Dispose in a manner which avoids contamination.

b) Store waste in closed or covered containers at defined waste accumulating areas.

d) Waste containers should be clearly marked.

e) Waste shall be disposed of according to local Regulations and in a manner which ensures that equipment and the safety of feed materials are not affected.

4.3 Operational rules

4.3.1 General

The management shall implement all manufacturing activities in line with this Guide.

4.3.2 Incoming materials requirements

The management should place special emphasis on ensuring that incoming materials comply with EU legislation:

a) Purchasing information shall describe the raw material to be purchased, including requirements for approval of purchased product.

b) Requirements for analytical monitoring shall be defined, based on a risk assessment.

c) Records of any relevant analytical and monitoring results and necessary actions arising from that evaluation shall be maintained.

The management shall include in the purchasing information the requirement for compliance with EU legislation. In case the incoming material originates from a country or region with a risk of non conformity, e.g. for MRL's or GMO's the management shall apply the appropriate analytical monitoring, based on a risk assessment.

4.3.3 Handling of incoming materials

The management shall make sure that each batch entering the site shall be uniquely registered by means of a batch number, full name of product, date of receipt and quantity received. Any damage shall be reported to an appropriate responsible unit, *e.g.* the quality control unit.

For incoming material a receipt and storage procedure must be in place. If silos are emptied, this shall be recorded.

Incoming materials should be checked against feed safety criteria.

Samples of these materials should be retained 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 for a period appropriate to the use for which the feed material is placed on the market.

4.3.4 Measures for the prevention of cross contamination

The operator shall have a program in place to prevent, control and detect contamination. It shall include measures in order to prevent physical, chemical and microbiological contamination.

4.3.5 Rework

The management shall handle rework in a way to ensure that feed material safety, traceability and regulatory compliance are maintained.

The approval and use of reworks (*e.g.* from rejects, customer returns or spillage) shall be considered within the HACCP system. Potential reworks which are not approved for the intended use are managed in accordance with non- confirming product (See §4.4.4) and if they become waste material, they should be dealt with according to waste disposal procedures (See §4.2.8), unless they are directed to an industrial application.

4.3.6 Production of feed materials

Management shall ensure the availability of work instructions:

a. The different stages of production shall be carried out according to written procedures aimed at defining, controlling and monitoring the critical points in the manufacturing process.
b. These shall include procedures to address the risk of carryover.

The management shall plan and carry out production and service provision under controlled conditions. Production areas shall be controlled so that access for non-authorised personnel can be prevented.

4.3.7 Finished feed materials

The management should provide, as applicable, information that describes the following:

a. Each product shall have a written specification.
b. Each product shall have a unique name or code.
c. Each batch shall be labelled by a unique identifier (which can be a combination of codes) in order that it can subsequently be identified and traced. Labelling shall be in accordance with the relevant EU feed legislation.
d. All finished product should be inspected prior to dispatch, in accordance with written procedures, to ensure it meets specification. A retention sample of adequate size shall be taken of each batch and held, as a minimum, for a time equivalent to the defined shelf life of the product. The samples must be sealed and labelled, stored in a manner that should prevent abnormal change, and kept for the time of the shelf life.

If products are rejected and thus not put into circulation for any reason related to product safety, their disposal, destination, or return to supplier shall be recorded.

4.3.8 Storage

The management shall control all storage activities of the incoming materials, processing aids and finished product.

Rules controlling storage:

a. Incoming materials shall be stored in suitable designed places, adapted and maintained, in order to ensure appropriate storage conditions which manage the risks of contamination and possible infestation by harmful organisms. Packed materials shall be stored in appropriate packaging.
b. Finished products shall be clearly identified and stored in clean and dry conditions.
c. Materials should be stored in a manner which enables easy identification, avoids cross-contamination and prevents deterioration.

4.3.9 Transport

Transportation of finished feed materials, by road, river, rail or sea, are critical points in the process.

Whatever means of transport is used the transport contractor and the transporter are responsible for ensuring that the equipment used for transport conforms to feed safety requirements.

Impurities that are hazardous to humans or animals may get in contact with the final product. Measures must be taken to ensure that the transportation of raw material and finished products is adequate in order to minimize the risk of contamination.
The management shall ensure that any internal or external transport offered is suitable to receive the feed materials and shall apply the following, general rules:

a) Staff authorized and/ or supervisor identified for the check of the compartments before loading.

b) The load compartment is empty, clean, odourless and dry.

c) Records must be available showing the previous three loads (by load compartment) and, if relevant, any cleaning operations that have been carried out.

d) Before loading the feed materials, all visible residues from the previous load must be cleared from the outside of the vehicle.

e) The conformity of control results as well as non conformities and corrective actions must be recorded.

f) During transport the load compartments must be watertight covered against rain and other contamination.

If distribution or transport is performed by a subcontractor the transporter shall be selected on the basis that it can satisfy product safety and reliability criteria. The transport company must be registered according to current legislation. The feed

materials operator must communicate its requirements on transportation to the transporter; these requirements shall be documented.

Exceptions from the requirement on cleanliness may be done if the previous load does not compromise the safety of the one to be loaded.

For information on authorised previous cargoes see the list of the International Committee Road Transport (ICRT).

Where distribution or transport is of the responsibility of the customer, the operator shall communicate with the latter in case of anomaly detected before loading.

4.4 Management system components

4.4.1 Documentation requirements

The management shall maintain a feed safety management system manual that covers all aspects of this Guide. All documents and records shall be easily accessible for relevant personnel and effectively controlled. Documentation and record control shall be defined in a documented procedure.

All documents of the feed safety management system manual shall be authorised, under version control and distributed in a controlled manner. The operator shall have a system in place to prohibit the use of redundant documents.

Other documents that are relevant for feed safety shall be identified and managed.

Records shall always remain up to date, legible, readily identifiable and retrievable. The management shall identify all relevant records and their archiving time period and location. The archiving time period is as a minimum period the expiry date of the products produced plus one year.

4.4.2 Traceability

The management shall establish and implement a traceability system to be able to identify incoming materials from the immediate suppliers and distribution of the feed materials product to the immediate customer as well as to enable the identification of product lots of the feed materials produced and their relation to batch numbers or codes of incoming materials.

When rework or any reworking operation is performed, traceability shall be maintained.

In the feed material industry, the traceability from reception of the raw material to the dispatch of finished goods should reflect the nature of the production process (continuous, batch etc.).

A traceability system shall at least include:

a) Codes or batches of incoming materials; in-process products, packaging and chemicals.

b) Number of tanks, silos or equipments used.

c) Manufacturing and any operational documents applied.

d) Time of operations and controls.

e) Quantity and flow.

In general all records required for traceability must be kept for a period of 5 years in accordance to the EU relevant legislation in particular Regulation 178/2002 and its Guidance on the implementation of articles 11, 12, 14, 17, 18, 19 and 20 OF REGULATION (EC) N° 178/2002 ON GENERAL FOOD LAW and/or national Provisions.

Records related to traceability shall always remain up to date, legible, readily identifiable and retrievable. The management shall identify all relevant records and their archiving time period and location.

The samples of incoming and finished feed must be retained for a period appropriate to the use for which the feed is placed on the market. The samples must be kept in appropriate, sealed and labelled containers and be disposed of in a controlled way. The storage conditions must prevent any deterioration or damage to the samples.

Records should be maintained and readily available regarding the production, distribution and use of feed materials to facilitate the prompt trace-back of feed materials to the immediate previous source and trace-forward to the next subsequent recipients if known or probable adverse effects on consumers' health are identified.

The management shall verify the validity of its traceability procedures by an upstream and downstream traceability test at least once a year. Such test shall be documented and evaluated for improvements.

4.4.3 Inspection, sampling and analysis

The management shall have a documented system of sampling and analysis, both for control and verification. Such system shall be appropriate to the materials and products to be tested. The management shall demonstrably take into account relevant legislation and guidelines.

The sampling procedures shall be adapted:

- To control the conformity of incoming materials and (intermediate) products, the sampling method shall represent the characteristics of the whole lot at an adequate level.
- To verify the validity of other control measures, sampling and analysis may be used. The method and frequency shall be adapted to the expected effectiveness of these control measures.

The management shall have documented procedures on sampling, addressing methods, qualifications and responsibilities.

For in-house analysis regarding feed material safety, not requiring by law an accredited lab and methods, the suitability of the method and its application shall be validated against the appropiate standard and/ or ring testing.

For sub contracted analysis in general and the kind of feed materials safety analysis requiring by law an accredited lab and methods, the laboratory performing the analysis as well as the methods used, should be accreditated according to ISO 17025.

4.4.4 Control of non-conforming product

The management shall establish a documented procedure for dealing with products which do not comply with intended requirements.

The procedure should include:

a) Identification.

b) Segregation of affected batches.

c) Provision for disposal of products where appropriate.

d) Evaluation of the root cause of the non-conformance.

e) Documentation of non-conformance, root cause analysis, corrective actions and verification.

f) Recording of internal information of relevant parties.

Responsibility for review and disposal of the non-conforming product shall be defined.

A non-conforming product should be reviewed in accordance with documented procedures and actioned in one of the following ways:

a) Rework (See rework §4.3.5).

b) Reclassification (e.g. as a product intended for industrial use).

c) Dispensation (not in case of a feed safety issue).

d) Rejection and subsequent destruction or disposal according to waste disposal procedures (See §4.2.8).

4.4.5 Crisis management –withdrawal and recall for safety reasons

The management shall implement a documented withdrawal and recall procedure that ensures customers and regulatory authorities can be informed promptly in the event of any irregularity that may adversely affect feed material safety.

If the management considers or has reason to believe that a feed material which it has produced, processed or manufactured does not satisfy the feed safety requirements it shall immediately initiate procedures to withdraw and if necessary, recall from users of the feed material the feed in question from the market and inform the competent authorities thereof.

a) The withdrawal and recall procedure shall be documented.

b) Responsibility shall be defined for notifying customers and regulatory authorities.

c) Responsibility within the operation for product withdrawal and recall(s) shall be defined.

d) All relevant contacts (including relevant authorities) shall be listed and kept up-to-date.

Feed materials which are considered unsafe will be handled as non conforming product (See §4.4.4).

Yearly the recall procedure shall be tested by a simulation to ensure its validity.

4.4.6 Internal audits

The management shall ensure that internal audits are performed to verify that the feed safety management system is:

a) Effectively implemented and maintained.

b) In compliance with regulatory and other defined requirements.

Internal audits may also be used to identify potential opportunities for improvements.
The planning for internal audits shall be documented.
The documented audit procedure should, as a minimum, include:

a) Preparation and issue of audit plans.

b) Scope of audits.

c) Frequency of audits.

d) Methods used to conduct the audits.

e) Reporting of findings and suggested improvements.

f) Distribution of reports.

g) Implementation of corrective actions and follow-up activities.

h) Selection and training of competent auditors.

4.5 Supplier and customer relationship

4.5.1 Supplier relationship

The choice of suppliers and the selection of feed materials are a key aspect of any operator's safety management system(s). Poor incoming materials can result in the production of poor quality finished products and may compromise the safety of the operator's entire process. All operators should therefore place special emphasis on ensuring their suppliers and feed materials are of the required quality and standard.

Suppliers of high risk raw materials should be evaluated, based on a risk assessment, on a yearly basis.

For the requirements on incoming materials see §4.3.2.

4.5.2 Customer relationship

The operator shall ensure adequate communication with customers to determine customer feed safety requirements. Contracts and orders shall be subjected to review to determine whether the operator is able to meet such requirements. The contract review shall include notification of the HACCP-team leader in advance of production or delivery if customer requirements may have an impact on feed safety.

Each customer complaint shall be examined following a documented procedure that establishes the workflow and responsibilities for managing complaints.

For each complaint the following data must be kept:

a) Feed product, quantity and lot number under complaint.
b) Name of customer and delivery place.
c) Characteristics of complaint.
d) Investigation to research causes.
e) Action taken to prevent recurrence.
f) Feedback to the customer.

Customer complaints regarding feed safety will be recorded so retrieval is made easy for the HACCP verification.

5. Prerequisite programmes

In order for an effective HACCP system to be implemented, a prerequisite programme shall be established by the operator. This programme shall be documented and, as a minimum, address the topics listed below.

More detailed provisions can be found in this document under the chapter on management; 4.2 resource management and chapter 4.3 operational rules.

In addition more information can be found in the risk assessment in the sector reference documents (Appendix 3 sector reference document on starch processing, Appendix 4 sector reference document on oil and oilseed processing).

The link provided in the text below provides a cross reference to the more specific text under 4.2 and 4.3.

5.1 Construction and lay-out of the building (see §4.2.3.2).

5.2 Lay-out of premises and workspace (see §4.2.3.3).

5.3 Utilities (see §4.2.3.3).

5.4 Waste disposal (see §4.2.8).

5.5 Equipment, cleaning and maintenance (see §4.2.3.4).

5.6 Management of incoming materials (see §4.3.3).

5.7 Measures for the prevention of contamination (see §4.3.4).

5.8 Cleaning and sanitation (see §4.2.6).

5.9 Pest control (see 4.2.7).

5.10 Personal Hygiene (see §4.2.2.3).

5.11 Personal facilities (see §4.2.2.3).

5.12 Rework (see §4.3.5).

5.13 Product withdrawal and recall (see §4.4.4 and §4.4.5).

5.14 Storage (§see 4.3.8).

6 HACCP system

6.1 General introduction

HACCP stands for Hazard Analysis and Critical Control Points and is a "tool" that helps an operator to identify safety hazards and quantify the risk associated with their products and processes. The system then enables the operator to document, control and verify the effect of measures to control these safety hazards.

The production of safe feed materials requires that the HACCP system is built upon a solid foundation of prerequisite programs. Prerequisite programs provide the basic environmental and operating conditions that are necessary for the production of safe feed materials. While prerequisite programs may impact upon the safety of a feed material, they also are concerned with ensuring that feeds are wholesome and suitable for consumption. HACCP system are narrower in scope, being limited to ensuring feed is safe to consume. The nature of the PRP will vary between individual operators but the general principles will apply across the European feed material industry.

The prerequisites are the backbone of the system and without them no HACCP system will be successful. These procedures provide a solid operating foundation allowing the HACCP team to focus on the few critical issues that may not be addressed as part of the daily program but still require special care.

The HACCP-method is based upon seven basic principles:

1. Conduct a hazard analysis.
2. Determine the critical control points (CCPs).
3. Establish critical limits.
4. Establish a system to monitor the control of each CCP.
5. Establish the corrective action to be taken if controls should fail.
6. Establish a procedure to verify that all the aspects of the HACCP system are working effectively.
7. Document all procedures and records to demonstrate the HACCP system is working effectively.

6.2 General requirements

The Operator shall have a well-documented, fully implemented HACCP-system that covers all activities within the scope. This scope starts at the point of legal ownership of the incoming materials and ends where the ownership of the final product is transferred to the customer.

The practical application and implementation of HACCP requires a structural approach that can be divided into the following implementation strategy;

6.3 HACCP-team and team leader

The HACCP- system shall be developed and maintained by a multi-disciplinary team that will have responsibility for establishing, developing, maintaining and reviewing the HACCP system. This team shall have access to multidisciplinary knowledge and practical experience in feed safety management systems. It is vital this team has the full support of the Operator's management and ideally a management representative should lead the team. The team should include people who have as a whole demonstrable thorough knowledge of:

a) Application of HACCP-principles.
b) Production processes and equipment used.
c) Products, incoming materials and their related hazards.
d) Legal and sector requirements.

Team meetings shall be chaired by a HACCP-team leader. This team leader reports directly to management. HACCP-team meetings are regularly planned. The outcome of these meetings, the composition of the HACCP-team and the individual competence of the team members shall be documented.

6.4 Incoming material and finished product specifications

The HACCP-system shall cover the production of all existing and new feed materials. Detailed information regarding each product is required in order to assess hazards presented by the process or delivery to the end user. Be sure to consider the product incoming materials, and application of the finished product by your customers. Both final products and incoming materials may be defined as groups if feed safety aspects are comparable. For practical reasons it is advisable to group similar products where appropriate. In that case, all materials in a group shall be stated in the relevant specification.

For finished products, documented specifications shall be defined stating:

a) Name or other identification.
b) Relevant chemical, physical and microbiological characteristics relating to feed safety.
c) Packaging (if any).
d) Composition.
e) Labelling/claims.
f) Shelf life/storage conditions.
g) Directions for application/intended use.
h) Relevant legislation.
i) The intended use of the product shall be identified and documented.

For incoming materials, documented specifications shall be defined stating:

a) Name or other identification.
b) Origin and production method.
c) Relevant chemical, physical and microbiological characteristics regarding feed safety, including characteristics determined in the hazard analysis.
d) Packaging (if any).
e) Shelf life/storage conditions.

f) Relevant legislation.

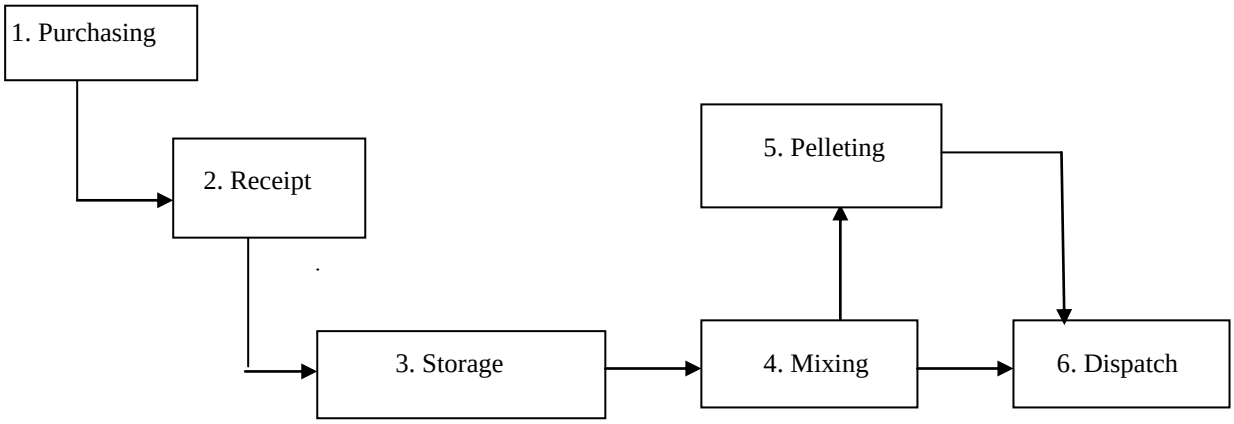
6.5 Process information

All processes within the scope shall be documented in process flow diagrams. Process flows shall have a level of detail that facilitates a thorough analysis by the HACCP-team. The process flow diagram should indicate the steps used to produce the product. One block in the process flow should reflect a step in the process.

The process flow diagram shall include:

a) Production, storage and logistic processes.
b) Processes for the production or treatment of water, steam, compressed air, gasses or any other substance that comes into direct contact with the product.
c) Equipment for CIP where these may constitute a hazard for the final product.
d) Outsourced processes.
e) Rework and/or intermediate storage.
f) Relevant input of processing aids.
g) Line-up variations that are inherent to the process.

The diagram should be as simple as possible, with clear diagrams and unambiguous terms. Its level of detail should be in line with the knowledge of the HACCP-team members of the process. A very basic example is given here:



Confirm the accuracy of the process flow diagram *in situ* by checking it against the actual operating process in your facility.

Where cross-contamination may form a risk, the process information shall include a layout of the premises showing routing of (final) products, waste and personnel and the location of waste collectors and personnel facilities.

All process information shall be demonstrably validated by the HACCP-team against the actual processes and premises.

6.6 Hazard analysis

The HACCP-team shall conduct and document a hazard analysis that covers materials and all process steps within the defined scope.

The diagram shall be used to identify potential hazards at each process step, taking the particular circumstances of the step into account, from the perspective of:

Chemical – Pesticides, lubricants, dioxins, heavy metals, cleaning agents etc.

Biological – Undesirable micro-organisms such as salmonella, E. coli, moulds, etc.

Physical - Foreign bodies such as glass, wood, jewellery, stones metal objects etc.

For example, for Step 1, your first consideration should always be, "How good is the material being supplied to me?"

Both the source and the hazard should be specified, e.g.: "Too low pressing temperature causing Salmonella survival".

For all identified hazards, measures will be defined. These will be implemented either by redefining the prerequisite program or by defining control measures in the feed safety management system manual.

6.7 Risk assessment

For all identified hazards, the risk level shall be assessed by determining the severity of the health effect of the hazard and the likelihood that this effect will occur at that step, with no control measure in place (unmitigated risk). The HACCP-team shall compare the calculated risk levels to a predefined risk level to identify the significant hazards and the non-significant hazards. The predefined risk level and its motivation and the assessment and determination of (non-) significant hazards shall be documented.

6.8 CCP determination

All significant hazards shall be evaluated by a structural method to determine whether the related process step is critical for feed safety (CCP). This method shall as a minimum take into account:

a) The need for a specific control measure.
b) The possibility to monitor and/or control the process step.
c) The validity of the control measure to eliminate the risk or reduce it to an acceptable level.
d) The presence of a subsequent processing step that will eliminate the risk or reduce it to an acceptable level.

If a significant hazard needs a specific control and there is no point further down stream in the process that can reduce or eliminate it, it is a Critical Control Point (CCP). If it is not a CCP a less rigid control or the correct application of your prerequisite program will suffice.

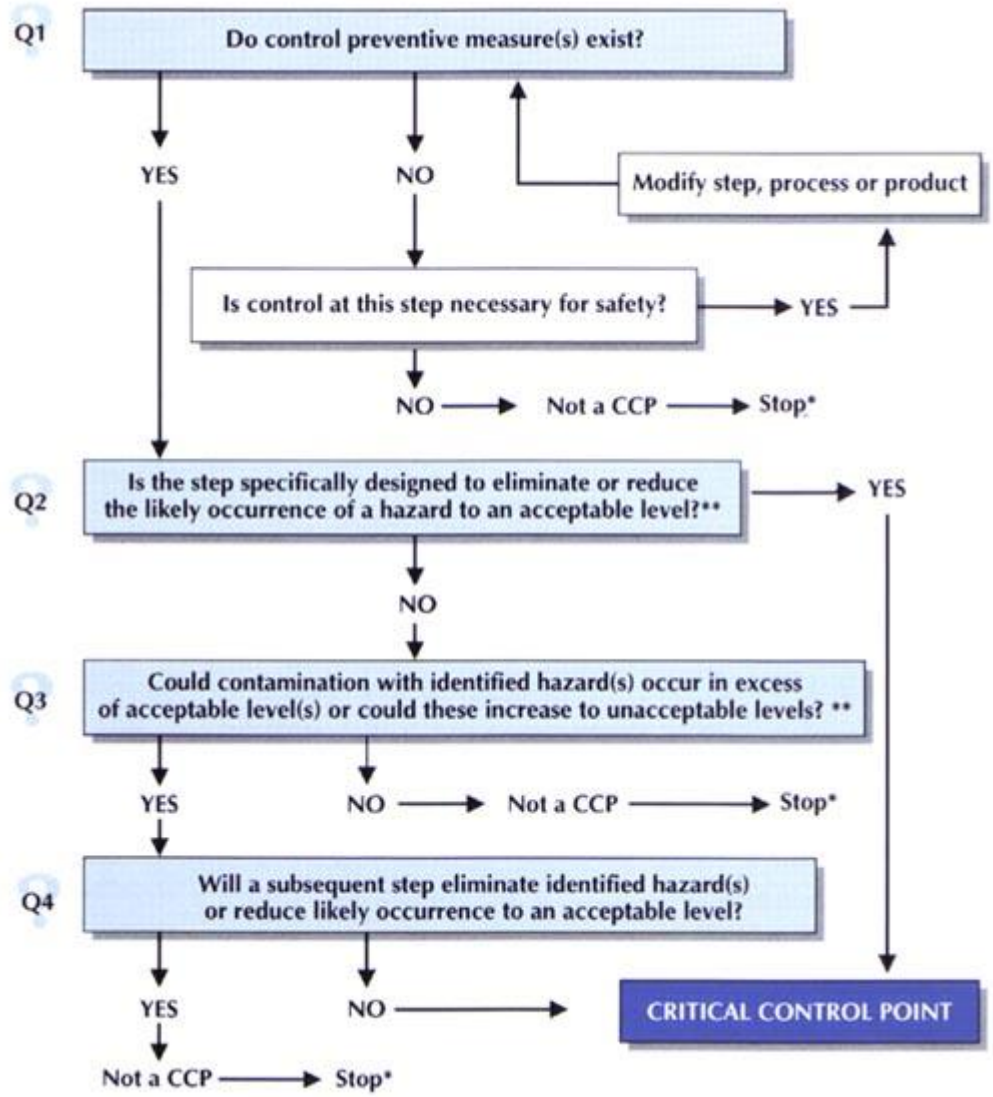
Example:

Severity ↓			
Large	3	4	4
Moderate	2	3	4
Small	1	2	3
Likelihood → of occurrence	Small	Moderate	Large

To determine the CCP's in the process, there are two recognised guidance methods to apply:

The first method is based on the above assessment of risk level. Four risk levels can be determined with the risk evaluation model. In the event of risk level 1, no measures may be necessary. In the event of risk level 2, periodic measures have to be carried out. Risk level 3 requires application of prerequisites such as hygiene programs, maintenance and calibration, purchasing procedures, etc. In the event of risk level 4, with no subsequent step that will still eliminate the hazard, the process step is a CCP and specific control measures are necessary.

The second method is facilitated by the application of a decision tree (see figure below), which indicates, by means of four questions, a logic reasoning approach. To avoid a large number of non-realistic CCP's, the tree should only be applied on significant hazards, e.g. with risk levels of 3 and 4.



The total number of CCPs will depend on the processes and products but following the proper method it will give the relevant number of CCP's. Try to keep the total number as low as possible. You can monitor a few key CCPs much more effectively than a vast array.

Once the process step and related hazard that needs a specific control are identified the control measure must be defined. The control must be possible, measurable and eliminate or reduce the risk to an acceptable level. If the CCP is out of control immediate corrective action must be possible.

The motivation and outcome of the CCP determination shall be documented.

6.9 Critical limits and monitoring

For all identified CCP's, critical limits shall be defined. These limits shall be validated by e.g. legislation, scientific data or challenge tests. Establish a target value as an average and a critical limit that will divide the acceptable from the unacceptable. These limits must comply with all legislative obligations but if there are no legal limits one's own research; analytical and bibliographic, and experience (either your own or a consultant's) should be used to strike the right balance between safety and operability.

A clear distinction shall be made between limits that trigger (only) process adjustment and critical limits that, if exceeded, require product aimed corrective actions. Critical limits and their validation shall be documented.

Monitoring of a CCP is a planned measurement of the process parameters to establish if a CCP is under control. It must have a schedule, limits as defined above, a written procedure, responsible employees with appropriate training and a written record of the measurements/observations/results.

The monitoring of CCP's shall be valid to:

a) Signal exceeding of critical limits.
b) Represent continuous state with acceptable certainty.

If any indirect monitoring or qualitative limit is used, the validation of the method and/or of the competence of the operator shall be documented.

6.10 Correction

The HACCP-team shall define product aimed at correction to apply if a critical limit is exceeded. This correction shall extend itself over all product that was not demonstrably processed within critical limits.

Correction reports shall represent the actual measured values, date/time, initials of the employee involved and any correction, including the volume and final destination of involved product.

The Operator shall document an overview of all CCP's, including the control measures, critical limits, monitoring frequency and method, corrections, records and related responsibilities. This overview shall be implemented in the operational documentation of the feed safety management system manual.

Example:

Step	**Hazard**	**Category**	**CCP**	**Monitoring**				**Critical limit**	**Corrective action**	**Record & verification**
4.Mixing	Foreign objects in material	Physical (any)	3 (3rd in process)	What	How	When	Who	All holes < 2 mm Sieve is rotating at 50 revs'/ minute	Block product since last inspection in accordance Replace or repair sieve or reset its speed if its out of spec.	Number of complaints on foreign objects in final product
				Sieve	Inspected to ensure it is operating and in good condition	Daily	Maintenance Dept.			

6.11 Validation of the feed safety management system

The operator can refer to the Guide including the relevant sector reference document(s) to validate the HACCP-system.

6. 12 Verification of the feed safety management system

The HACCP-team shall verify the feed safety management system at least annually to confirm its effectiveness and validity. This verification shall demonstrably consider:

a) Implementation and effectiveness of all prerequisites.
b) Implementation and effectiveness of all control measures.
c) All deviations in CCP control and corrective actions taken.
d) Internal and external notifications (complaints) related to feed safety.
e) Results of relevant chemical and microbiological analysis.
f) Incidents and recalls.
g) Changes in products, processes and legislation.

This verification shall lead to explicit conclusions on the implementation, effectiveness and validity of the feed safety management system. The verification shall be fully documented, ideally be part of the company's internal audit schedule and be used as input for the management review.

There is a number of documents that will be necessary as part of the HACCP system. A minimal list is prescribed here:

a) HACCP-team (members and expertise).
b) Minutes of HACCP-team meetings.
c) End product specifications.
d) Material specifications.
e) Process diagrams.
f) Prerequisites.
g) Hazard analysis tables, including CCP-determination and validation.
h) HACCP-plan including all CCP's, critical limits, monitoring and corrective actions.
i) Operating procedures for CCP's.
j) Corrective reports and associated documents.
k) Verification procedures and results for all of the above.

7 REFERENCE DOCUMENTS

In order to align the Guide with current animal feed legislation and various activities on national, industrial and/or association levels, it takes into account the principles of feed and food safety as well as HACCP principles that are set out in various international documents further down and EC legislation, in particular:

- The General food law Regulation (178/2002/EC)
- The Feed Hygiene Regulation (183/2005/EC)
- The Official Control Regulation (882/2004/EC)
- The Additives Regulation (1831/2003/EC)
- The Directive on undesirable substances in animal nutrition(2002/32/EC)
- The Pesticide residues Regulation (396/2005/EC)
- The GMO feed and food Regulation (1829/2003/EC)
- The Placing on the market Regulation (767/2009/EC)
- The Commission Recommendation on the presence of deoxynivalenol, zearalenone,ochratoxins A, T2 and HT2 and fumonisins in products intended for animal feeding, (2006/576/EC)
- The Codex Alimentarius Code of Practice on Good Animal Feeding

8 SECTOR REFERENCE DOCUMENTS

A sector guide should include or call on the development of comprehensive risk analyses at sector level addressing per feed material involved:

- The identification of feed safety hazards.
- The formulation of measures to control these hazards.

The responsibility of individual locations/operators for HACCP remains untouched.

The following feed material sectors have developed sector reference documents covering feed materials safety issues:

APPENDIX 3: SECTOR REFERENCE DOCUMENT ON STARCH PROCESSING

APPENDIX 4: SECTOR REFERENCE DOCUMENT ON OIL AND OILSEED PROCESSING

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APPENDIX 1: LIST OF CONSULTED ORGANISATIONS

EFIP has contacted and met a large representation of industrial sectors linked with production and consumption of feed materials and other stakeholders throughout the Community.

The aim of these meetings was to invite all major stakeholders associated with the feed industry in the EU to provide feedback on this Guide prior and after to its first release in June 2009.

The final objectives of this consultative process, which is still open and continuous, are:

a) Search for contributions, establish a constructive discussion and invite stakeholders to provide comments and proposals on the text for its continuous improvement.
b) To provide a good understanding of the Guide's approach to other sectors.
c) To reach a sufficient degree of confidence within the feed and food chain, taking the greatest care of the legitimate safety expectations of the other sectors industry.
d) To provide the Guide a chain approach and coordination with the other parties involved.

A special mention has to be given to the very active participation of AAF and FEDIOL within the EFIP Platform, the European Feed Ingredients Platform, of which they are founding members. EFIP is established by the major European associations or federations representing the sectors that supply feed materials to the EU market, and is a voluntary platform to evaluate sectors' guides, share experiences, cooperate and offer concerted guidance to all of their members on the implementation of the Feed Hygiene Regulation and relating safety schemes. Together, the EFIP members represent the vast majority of all "materials" that enter the food chain via compound feed (cereals, processed vegetable or animal products, additives, and co-products from the food processing industry).

History of the consultation process:

- 0october 2006 EFIP- FEFAC Meeting
- December 2006 EFIP- FEFAC Meeting
- January 2007 EFIP Technical Committee Meeting
- January 2007 EFIP Plenary Meeting
- February2007 EFIP- FEFAC Meeting
- March 2007 EFIP Technical Committee Meeting
- March 2007 EFIP Plenary Meeting
- May 2007 EFIP- FEFAC Meeting
- June 2007 EFIP Plenary Meeting
- July 2007 EFIP Plenary Meeting
- September 2007 EFIP Technical Committee Meeting
- October 2007 EFIP Plenary Meeting
- November 2007 EFIP Plenary Meeting
- January 2008 EFIP Plenary Meeting
- March 2008 EFIP Technical Committee Meeting
- May 2008 EFIP Plenary Meeting
- June 2008 EFIP Plenary Meeting
- September 2008 EFIP Technical Committee Meeting
- September 2008 EFIP Plenary Meeting
- December 2008 EFIP Plenary Meeting
- February 2009 EFIP Plenary Meeting
- March 2009 EFIP- FEFAC Meeting
- April 2009 EFIP Technical Committee Meeting
- April 2009 Assalzoo Meeting
- June 2009 EFIP Plenary Meeting
- September 2009 EFIP Technical Committee Meeting
- December 2009 EFIP Plenary Meeting
- January 2010 EFIP Technical Committee Meeting
- March 2010 EFIP Technical Committee Meeting

EFIP

In line with the publication of the Feed Hygiene Regulation (Reg. (EC) No 183/2005) and in particular articles 7, 20 and 22 thereof, all of the major European associations or federations representing the sectors that supply feed materials to the EU market have taken steps to ensure that all of their respective sector guides meet the obligations of Reg. (EC) No 183/2005, and more globally all feed regulations requirements, and are conforming with the Codex Alimentarius guide on good animal feeding CAC/RCP 54-2004.

These associations or federations have formed EFIP, the European Feed Ingredients Platform. EFIP is a voluntary platform to evaluate sectors' guides, share experiences, cooperate and offer concerted guidance to all of their Members on the implementation of the Feed Hygiene Regulation and relating safety schemes.

Together, the EFIP Members represent the vast majority of all "feed materials" that enter the food chain via compound feed (cereals, processed vegetable or animal products, additives, and co-products from the food processing industry), whether produced in Europe or imported from third countries.

The following associations are a member of EFIP:

- AAF - Association des Amidonniers et Féculiers - European Starch Industry Association
- The Brewers of Europe
- CEFS - Comité Européen des Fabricants de Sucre
- CIAA - Confederation of the EU Food and Drink Industry
- COCERAL - Comité du Commerce des céréales, aliments du bétail, oléagineux, huile d'olive, huiles et graisses et agrofournitures
- EFPRA - European Fat Processors and Renderers Association
- FAMI-QS - Feed Additive and Premixture Quality System European Association
- FEDIOL - The EU Oil and Protein meal Industry
- The European Flour Millers' association

AAF

AAF (Association des Amidonniers et Féculiers) is the trade association which represents the interests of the European starch industry both at European and international level. The starch industry is present in 21 European countries and currently counts 24 members and 7 associate members. For a complete list please refer to the AAF web-site: http://www.aaf-eu.org/html/members.html

FEDIOL

FEDIOL is the European federation representing the EU Oil and Protein meal industry. FEDIOL members are 14 National Associations of seed crushers' and oil processors' established in the different EU countries. Through its network of associations, over 35 companies are affiliated to FEDIOL, such as AAK, A.D.M, CARGILL, BUNGE, IOI Loders Croklaan, Lipidos Santiga, Sovena, Thywissen, Wilmar Edible Oils,.... A comprehensive list of companies affiliated to FEDIOL associations can be consulted on our web-site: http://www.fediol.be/4/index.php

APPENDIX 2: LIST OF ACRONYMS AND ABBREVIATIONS

- **As**: Arsenic
- **B**: Biological
- **C**: Chemical
- **Cat.**: Category
- **CCP:** Critical Control Point
- **Cd**: Cadmium
- **CFU/g**: Colony Forming Units per gram
- **CIP**: cleaning-in-place
- **DDT**: Dichlorodiphenyltrichloroethane
- **EC**: European Commission
- **EFIP**: European Feed Ingredients Platform
- **EU**: European Union
- **FEFAC**: European Feed Manufacturers' Federation
- **GMP**: Good Manufacturing Practice
- **HACCP**: Hazard Analysis and Critical Control Points
- **HCB**: Hexachlorocyclohexane
- **HCN**: Hydrogen cyanide
- **Hg**: Mercury
- **ISO**: International Organisation for Standardisation
- **MRL**: Maximum Residue Limit
- **MS**: Member States
- **P**: Physical
- **PAH**: Polycyclic aromatic hydrocarbons
- **Pb**: Lead
- **PCBs**: Polychlorinated biphenyls
- **PCCDs**: Polychlorinated-dibenzo-para-dioxins
- **PCDFs**: Polychlorinated-dibenzo-furans
- **PRP**: Prerequisite Programme
- **SFM**: Safe, Fair and Merchantable
- **SO2**: Sulphur Dioxide
- **T°C**: temperature degrees Celsius
- **TEF**: Toxic Equivalent Factor
- **WHO:** World Health Organisation