



# **EUROPEAN GUIDE OF GOOD PRACTICE FOR THE STORAGE OF AGRIBULK COMMODITIES**

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# EUROPEAN GUIDE OF GOOD PRACTICE FOR THE STORAGE OF AGRIBULK COMMODITIES

## SECTION 1 : INTRODUCTION

Food, feed and livestock production play a large role in the European Union's agricultural sector. They depend to a large extent on the use of good and suitable raw material.

This guide is set up for the handling of any agribulk commodity of vegetable origin such as grains, oilseeds, feed ingredients and applies to storekeepers storing and / or handling raw materials destined for food and feed. Any reference made in this guide to food covers both food and feed and vice versa.

The handling of agribulk commodities is done by service providers for loading, discharging and storage of these commodities. The service provider for the purpose of this guide is not considered in any case to be the owner of the goods.

The EU-27 produces on average some 300 mio t cereals and 16 mio t oilseeds. Moreover the EU imports some 10-15 mio t cereals, 15 mio t oilseeds and 35 mio t feedstuffs. Over 20 mio t of grains are exported to third countries. Most of the imports/exports have to be handled by portside storekeepers. Therefore this guide mainly addresses the good practices related to these activities.

The cereals and oilseeds harvests occur during a short period of the year (1-2 months). Goods are then stored either on farm, at merchants/coop facilities in the hinterland. Only a very small percentage is immediately delivered to the portside terminals. This means that the typical service provided at the portside terminal consists of short storage periods and hence results in a high rotation. Therefore the main service of the portside terminal is loading and unloading of agribulk commodities rather than long term storage.

As far as imports are concerned, the role of the portside terminal is to receive the goods on behalf of the cargo owner and deliver them soonest to the downstream part of the chain. They can be distributed to the feed, food and fuel processing industries as well as traders or merchants.

Due to the characteristics of the services provided, portside storekeepers' main obligation is to keep facilities dry, clean and generally well maintained to ensure that their performance does not alter the condition of the goods.

Deliveries and transport of agribulk commodities are done by any mode of land and water transport such as vessels, barges, trains, trucks, etc.

## **SECTION 2: SCOPE, PURPOSE AND DEFINITIONS**

### **1. Scope and purpose**

The EU regulation on food and feed hygiene aims at ensuring a high level of consumer protection introducing Reg. No 178/2002 and Reg. No 1831/2003 as well as others. Those regulations stress specifically the role every single player has in the food and feed chain. This is the reason why the storekeepers have set up a guide of good practice for the part they are responsible for in the chain.

This guide proposes good hygiene practices for operators that receive, store and deliver agribulk commodities on behalf of their owner. These good hygiene practices are applicable from receipt through dispatch and secure both the safety, hygiene and condition of the delivered goods.

The commercial characteristics of the goods are an integral part of the contractual provisions. As such, they are not covered by the scope of this guide and remain within the responsibility of the goods owner.

General implementation of procedures on the basis of the HACCP System (Hazard Analysis and Critical Control Points) and traceability, together with a good hygiene practice should underpin the basis of responsibility of feed and food business storekeepers.

European guidelines that apply to the various stages of production should attempt to provide a high level of protection of human and animal health.

This guide establishes standards applicable to handling and storage and takes newer developments in food and feed hygiene into account as well as gives the storekeepers a framework to establish an internal quality management system.

It is therefore a significant contribution to safety and quality assurance in the food and feed chain.

### **2. Definitions**

**Batch:** lot of goods consisting of a single product, as defined by its owner and which can be identified for the purpose of recall/retreatment or disposal.

**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 which may compromise food safety or suitability (Codex Alimentarius).

**Contamination** - the introduction or occurrence of a contaminant in food or food environment (Codex Alimentarius).

**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).

**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 is essential to prevent or eliminate a feed / food safety hazard or reduce it to an acceptable level. (Codex Alimentarius and modified)

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

**Establishment:** Any unit of a feed business that carries out the manufacture/production and/or the placing on the market of feed ingredients (Regulation 183/2005/EC and adapted).

**Feed (or feedingstuff):** 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 business:** Any undertaking whether for profit or not and whether public or private, carrying out any operation of production, manufacture, processing or distribution of feed ingredients. (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 ingredient, taking into account its intended use. (Regulation 183/2005/EC)

**Feed Ingredient:** A component part or constituent of any combination or mixture making up a feed, whether or not it has a nutritional value in the animal's diet, including feed additives. Ingredients are of plant, animal or aquatic origin, or other organic or inorganic substances. (Codex Alimentarius)

**Feed Safety:** High level of assurance that the feed or the feed ingredient will neither cause harm to the farm animals when prepared or consumed

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

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

**Flow diagram:** A systematic representation of the sequence of steps or operations used in the handling and storage of agribulk commodities

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

**HACCP (Hazard Analysis and Critical Control Point):** A system which identifies, evaluates, and controls hazards to food and feed safety. (Codex Alimentarius and modified)

**Hazard:** Biological, chemical or physical agent in the food and feed chain with the potential to cause an adverse health effect for animals or consumers. (Regulation 178/2002/EC)

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

**Operator:** See portside storekeeper

**Placing on the market:** Holding products for the purposes of sale, including offering for sale or for the purposes of any other form of transfer, whether or not free of charge, to third parties, and the sale and other forms of transfer themselves. (Regulation 178/2002/EC) (See first placing on the market).

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

**Portside storekeeper:** natural or legal person who provides the services of receiving, storing and delivering agribulk commodities on behalf of the cargo owners at facilities placed in ports.

**Procedure:** A specified way to carry out an activity or a process. (ISO 9000:2000).

**Quality:** Degree to which a set of inherent characteristics fulfils requirements. (ISO 9000:2000)

**Record:** Document stating results achieved or providing evidence of activities performed (ISO 9000:2000).

**Requirement:** Need or expectation that is stated, generally implied or obligatory (ISO 9000:2000).

**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)

**Specification:** Document stating requirement (ISO 9000:2000).

**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)

**Validation:** Obtaining evidence of effectiveness (Codex Alimentarius and adapted)

**Verification:** Confirmation, through the provision of objective evidence that specified requirements have been fulfilled (ISO 22000)

## **SECTION 3: GOOD HYGIENE PRACTICES RECOMMENDATIONS FOR HANDLING AND STORING OF AGRIBULK COMMODITIES IN PORTSIDE TERMINALS**

### **3.1 Management system**

- Any food/feed safety management system applied by a portside storekeeper should be based on the three following pillars:
  - A management system based on a process approach and customer focus.
  - A prerequisite program to assist in controlling the likelihood of introducing hazards to food and feed products through the work environment, workers hygiene, and cross contamination between products. The application of those good practices shall include the food and feed hygiene requirements set in the EU regulations (EC) n°1831/2003 and related texts. The prerequisite programme shall be established, implemented and maintained regularly according to best hygienic practices.
  - An HACCP (Hazard Analysis - Critical Control Points) system effectively put in place, implemented, documented and maintained. The HACCP system should take into account the 7 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 three above pillars may be combined into one single management system, such as ISO 22.000.

### **3.1.1 Management responsibility**

#### **1) Management commitment, responsibility and policy**

Management shall be committed to the implementation of the guide in order to help ensure food and feed safety of the agribulk commodities.

Management shall ensure that responsibility and authority are defined, in written form, and communicated within the organization.

Staff appointed by senior 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;

Management shall:

- a) establish safety policy and ensure that objectives are established;
- b) define the scope of the HACCP system, by identifying the products/product categories which are covered by the system and ensuring that safety objectives are established as part of the system; and
- c) ensure that these objectives and policies are in compliance with business goals of the operator, statutory and regulatory requirements,

#### **2) Management structure and allocation of resources**

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

- a) ensure that the management system is established, implemented, maintained and updated in accordance with this Code,
- b) report directly to the organization's top management on the effectiveness and suitability of the management system for review as a basis for improvement of the system, and
- c) arrange relevant training and education of the team members.

The operator shall provide adequate resources for the establishment, implementation, maintenance, updating and control of the HACCP systems.

### **3) Human resources**

Handling and storage operations shall have a sufficient number of employees available with the necessary knowledge and qualifications for the handling and storage of agribulk commodities.

An organisation chart as well as a summary of responsibilities shall be prepared. The employees, including temporary recently hired staff and maintenance or transport staff, shall be informed and trained about their duties and areas of responsibilities and be aware of hygiene requirements. A corresponding record of the instruction shall be kept.

Where the assistance of external experts is required for the development, implementation, or operation of the management system, records of agreement shall be made defining the responsibility and authority of such experts.

Please see chapter 3.6 Training in this regard.

### **3.2. Prerequisites programme**

#### **3.2.1 Premises**

The premises and installations shall be kept clean and well maintained at all times. A housekeeping plan shall be in place.

#### **3.2.2. Equipment and maintenance**

Equipment employed must be fit for adequately handling the goods.

The handling equipment / storage facilities must be designed and operated in such a way that the goods are not damaged by sludge, water, rain, snow and other potential contaminants. Equipment must be maintained in a sufficiently clean and hygienically acceptable condition.

The storage facilities must be kept closed and protected from unauthorized access.

Technical maintenance/service is to be done by qualified staff.

Maintenance inspections at predefined intervals shall be performed and recorded on all equipment where corrosion or failure to operate correctly will result in product degradation or cross contamination.

Records are to be kept about the service and maintenance of the equipment used in the operations.

These records are a part of the internal quality assurance system.

Handling equipment shall be named explicitly to avoid misunderstanding.

### **3.2.3. Testing and measuring instruments**

The testing instruments used during operations (scales, measuring devices) must be suitable for the purpose they are used for. Weighing devices have to be calibrated according to national legal requirements.

Testing equipment is to be inspected regularly. The kind of inspection, the inspection intervals and the next inspection date must be registered in an inspection summary.

Devices to measure the temperature of the goods during storage shall be available at all times.

The inventory of testing instruments is a part of the internal quality assurance system.

### **3.2.4. Hygiene standards**

All goods shall be identified before any handling activities will take place. During handling and storage, all work must be done in line with the hygiene requirements so that a contamination of the goods should not be caused by either the surroundings or the staff.

This implies that instructions regarding personnel hygiene, work clothing, machinery maintenance and basic operational procedures are in place.

The instructions are part of the internal quality management system.

### **3.2.5 Cleaning**

The storekeeper must establish and implement measures to ensure sufficient cleanliness in the facilities.

The handling equipment / storage facilities are to be cleaned on a regular basis, and prior to a change in products by means of sweeping and collecting dust or equivalent procedures, when those products are not compatible.

Records of the cleaning measures must be kept. The record is a part of the internal quality management system. If vehicles (such as pay loaders etc.) are used, they are to be cleaned on a regular basis.

### **3.2.6 Pest Control**

The storekeeper must establish and document a pest control program and take preventative measures. This pest control program needs to be based on recognized pest control methods and means. For optimal results, externalisation of this service is recommended.

Pest control as well as the risk of bacteriological contamination to the storage facilities shall be part of HACCP concept.

The certificates issued as a result of the examination are a part of the internal quality management system.

### **3.2.7 Waste treatment**

A sufficient number of closed waste containers shall be available at a certain distance from the storage areas.

The waste that occurs during the cleaning of the storage facilities may not be returned to the goods.

The waste is to be disposed of in accordance with the legal requirements and documentation should be kept accordingly.

## **3.3. Quality management system**

### **3.3.1. HACCP system**

In order to meet the requirements of this guideline, it is necessary to introduce an internal quality management system.

For this purpose, the operation shall develop and continually apply a permanent monitoring system that is based on the principles of the HACCP Concept (Hazardous Analysis and Critical Control Points). HACCP helps an operator identify safety hazards and quantify the risk associates with their process. The system then enables the operator to document, control and verify the effect of these control measures.

The portside storekeeper has to ensure that a robust system is in place to manage the daily tasks of good handling practices (see chapter 3.2).

Management will review the effectiveness of the quality system on an annual basis.

The 7 HACCP 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 procedure and records to demonstrate the HACCP system is working effectively.

### **3.3.2 Flow diagram**

Within the framework of the quality management system, a flow diagram of the processes carried out in each operation shall be prepared.

The processes are the particular operational activities:

- Discharging/Putting into storage
- Loading
- Storing
- Other handling ( drying, sieving, bagging etc - each possibility to process is an independent process)

Process flow diagrams will be set up for every kind of transport carriers.

In these process flow diagrams, the handling/storage facilities used are apparent.

This is of significance for the application of the HACCP concept.

Each process flow diagram shall be described and will be used to identify the dangers as required by the HACCP method. Operators shall assure that the diagram is accurate by checking it against the actual operating process.

Besides the actual process description, the applicable documentation as well as the allocation of responsibilities must be recorded for each particular process.

### **3.3.3. Traceability**

In accordance with the Regulation No.(EC) 178/2002, traceability has to be assured.

Traceability means the possibility to trace a food or a feed through all production, processing and marketing stages.

The storekeepers must be able to identify from whom they have received the goods and to whom they have delivered them. For this purpose, storekeepers

are to establish a system of documentation recording any intake, outtake and internal movement of goods.

It therefore has to be assured that the goods can be traced back from delivery to reception (one step back and one step forward).

This information must be made available to the competent authority upon their request.

### **3.3.4. Goods inspection and identification**

A visual condition check is carried out by the storekeeper before the goods enter the facility of the storekeeper. Should the storekeeper have doubts on the condition of the goods, he shall be entitled to take the necessary measures. During the storage process the storekeepers will check the temperature and apparent condition of the goods in storage, the results to be recorded and notified to the owner.

Any significant change to the condition of the goods has to be reported to the owner immediately upon discovery. The storekeeper and the owner of the goods must cooperate in order to assess the condition of the goods.

Any procedures used must be advised to and approved by the owner of the goods each time before they are carried out. In the event of failure by the owners to respond in due time, the operator must take appropriate action.

All materials in storage shall be clearly identified, in a manner that individual operators can easily recognize, in order to avoid any operational incident at loading or movement of goods.

### **3.3.5. Delivery of the goods**

In general, the transport means do not fall under the responsibility of the storekeeper. Nevertheless, the storekeeper has the right to refuse the loading/discharging of the goods into/from a compartment in apparent bad condition.

In order to assure the safe transport, the owners of the goods have to follow the transport guidelines.

### **3.3.6 Early warning system**

The storekeeper can refuse the handling and storage of goods.

If the goods are damaged in the course of handling/storage, the owner of the goods will be informed without delay.

In close conjunction with the owner, it will be decided who will inform the authorities if necessary according to legislation.

### **3.4. Duties and obligations**

The portside storekeeper has the duty to provide storage facilities in such a way that the integrity of the goods is maintained. The owner has to be informed about any change in organoleptic characteristics of the goods. It is the responsibility of the owner to inform the competent authorities, if appropriate.

### **3.5. Documentation**

In order to implement the internal quality management system and the HACCP concept, corresponding documentation is necessary.

The records needed for documentation are to be kept for a period of 5 years.

### **3.6. Training**

The training of the company's employees will take place on a regular basis. A training schedule needs to be set up and records of the training sessions need to be kept.

In order to ensure that the employees' training levels are up-to-date training sessions are to be held prior to the introduction of significant changes to relevant procedures.

### **3.7. Internal audits**

Internal audits will be carried out in order to ensure that the quality management system and the HACCP are effective.

The frequency of the audits will be set by the quality manager/his deputy. The audits should be documented and carried out at least once a year.

### **3.8. External audits**

Subcontracting companies used for operations will have to be audited annually unless a corresponding quality system is in place. In any case the contracting company maintains the right to audit the subcontractor.

These audits will be carried out either by the quality manager/ his deputy or by an external accredited certification company. A corresponding report will be issued.

### **3.9. Complaints**

Each customer complaint related to safety must be examined following a documented procedure. It must establish the people responsible for managing complaints.

For each such complaint the following data must be kept:

- Goods, quantity and lot number under complaints,
- Name of customer and delivery place,
- Characteristics of complaints,
- Investigation to research causes,
- Action taken to prevent recurrence,
- Feedback to the customer.

If a batch has already been delivered to customers they must be informed of the potential non-conformity.