

# **AFS STANDARDS FOR THE ON FARM COLD CRUSH PROCESSING OF OILSEEDS INTO MEAL**

## **Introduction**

These standards reflect the need for the participant to achieve standards of feed safety that reflect the importance of feed ingredients within the food chain and the need to meet contractual and legal obligations.

## **SECTION 1 QUALITY MANAGEMENT SYSTEM**

### **1.1 Quality Management System**

The participant must establish, document, implement and maintain a Quality Management System (QMS). The QMS must be adapted to incorporate relevant regulatory and other safety related developments, as they occur.

- 1.1.1 The structure of the QMS must include policies, requirements and documented procedures that maintain feed ingredient safety. This includes demonstrating compliance with relevant legislation and meeting requirements of customers.
- 1.1.2 The QMS must ensure that all those activities that could impact on the safety of the feed ingredients produced / processed are consistently defined, implemented and maintained in the organisation.
- 1.1.3 The QMS must ensure that feed safety objectives are established and maintained.
- 1.1.4 The participant must review at least annually, the continuing suitability and effectiveness of feed safety and quality management systems. This review must include assessing opportunities for improvement and the need for changes to the safety and quality management systems. Management reviews must be recorded.

### **1.2 Quality Management Structure**

- 1.2.1 Any personnel involved in feed safety related tasks must be competent for the tasks that they undertake. Records of the participant's evaluation of the competence of personnel must be retained and kept updated.

### **1.3 Documentation Requirements**

Participants must produce and implement their own set of operating procedures that incorporate the requirements of this standard.

- 1.3.1 The QMS must be appropriately documented. Documentation must refer to all the requirements for the QMS described in section 1.1
  - Documents required by the Hazard Analysis Critical Control Point (HACCP) system (see 4.1) are also required
- 1.3.2 Record Keeping  
All records must be kept for a minimum of two years, unless longer periods are required by legislation.

### **1.4 Information Relating to Safety**

Information relating to safety issues that may affect the operation of the facility must be reliably and effectively transmitted to those personnel with responsibility for the areas involved. Any changes in practices or procedures necessitated by new information must be implemented effectively.

## **SECTION 2 RESOURCES AND GOOD HYGIENE PRACTICES**

### **2.1 General Requirements**

Storage and handling of oilseed raw materials must be carried out in conformity with AFS Combinable Crops Standards (Combinable Crops Standards Section 6 & 7).

### **2.2 Personnel – Production, Storage and Handling**

All personnel involved in the production, storage and handling of oilseeds must have received appropriate training as required under the AFS Combinable Crops Standards.

### **2.3 Personnel – Processing**

In most cases there may only be a single person involved in the process.

For staff involved in the processing of oilseeds training must include an introduction to HACCP principles.

2.3.1 Accurate and up-to-date training records must confirm any relevant training that has taken place and that the participant has assessed personnel as competent to carry out the tasks that they undertake.

2.3.2 Protective clothing must be worn wherever contamination of oilseeds or meal by personnel is identified as a risk by the risk assessment study. All clothing and equipment must be maintained in hygienic condition.

2.3.3 Clear policies on smoking and eating / drinking on site must be made known to employees and visitors and must prohibit eating, drinking and smoking in areas where these activities may adversely affect feed ingredients. If necessary, separate facilities must be provided.

2.3.4 Participants must ensure that appropriate hygiene training has been given to all personnel involved in the direct handling of processed meal. No person known to be suffering from a disease which may adversely affect the safety of processed meal may handle the processed meal.

2.3.5 The participant must ensure that engineers and contractors working on site are controlled in such a way that maintenance and building works do not adversely affect either raw material or processed meal safety. There must be a procedure in place to ensure that appropriate cleaning and tidying has been completed prior to resuming activities in that area.

2.3.6 Any personnel who have been in contact with livestock or livestock housing and/or equipment must change all outer clothing including footwear and must wash their hands before entering the processing area.

### **2.4 Processing Facilities & Equipment**

Conditions within buildings must be suitable and must not adversely affect the safety of any oilseeds processed in the buildings. The meal processing and storage area, including loading and unloading areas must be secure and clearly separate from any livestock enterprise on the unit and must not share a common enclosed airspace with the livestock. All equipment used for processing oilseeds must be fit for the purpose for which it is used and be designed and constructed to ensure that, where necessary, it can be adequately cleaned, disinfected and maintained to avoid the contamination.

2.4.1 Risk assessment procedures must be used to identify and control any hazards that may be associated with particular equipment. Where appropriate, corrective action must be taken as a result of these findings. Records must be kept detailing the date and nature of any corrective actions undertaken.

2.4.2 All drains, gutters and down-pipes must be designed and maintained in a manner that ensures they do not present a hazard to any processed oilseed meal stored on the site.

2.4.3 Vehicle access must be free from any material which as come into contact with farm animals and free from livestock faeces, litter and effluent. Livestock buildings must not drain onto the processing facility or onto its access.

## **2.5 Storage Facilities Non feed ingredients**

Adequate facilities for storage of non-feed ingredients (e.g. Cleaning and disinfection / sanitising chemicals, lubricants, fuels, etc) must be provided.

## **2.6 Stock control**

Stock control measures must be documented and adequate to ensure that oilseed meal does not deteriorate prior to use / despatch, or during storage. Stock control measures must also ensure that oilseed meal is delivered out on a first in, first out basis

## **2.7 Planned Maintenance**

All processing equipment must be subject to a programme of planned maintenance that ensures it is kept in safe and hygienic working condition. Records must be kept of maintenance carried out on all equipment critical to the production of safe oilseed meal.

## **2.8 Driers / Drying**

Any drying of oilseeds must conform to AFS Combinable Crops Standard 6.11

2.8.1 Where participants receive oilseeds that have been dried prior to receipt, the sellers must be able to demonstrate that no additional hazards have been introduced to the product during the drying and that the drying process has conformed to the AFS Combinable Crops Standard 6.11.

## **2.9 Cross-Contamination**

Participants must ensure that formal systems are in place that minimise the risk of cross-contamination of oilseeds or oilseed meal with other products.

If participants are involved in the processing of more than one kind of oilseed they must be able to demonstrate proper segregation of both raw materials and feed ingredients. Where processing is a continuous process, procedures must be in place to ensure any crossover material is segregated and managed as non-conforming.

Particular care must be demonstrated where oilseeds with significantly different properties, but of similar appearance are processed in the same facility. Examples include 'any origin' and 'Non GM products'; 'double zero' and 'high erucic' rapeseed.

## **2.10 Pest Control**

Pest control measures must conform to AFS Combinable Crops Standards 6.5, 6.7, 6.15 7.0 and 7.2. On units where livestock are also kept the pest control plan must extend to cover the livestock enterprise.

Consideration should be given to the rodent baits used on sites where rapeseed (canola) processing is undertaken. Evidence suggests that levels of Vitamin K in this oilseed may act as an antidote to the anticoagulants used in many bait preparations.

## **2.11 Cleaning**

Cleaning of storage areas, and all equipment used for harvesting, transportation, handling, conveying and loading of oilseeds or meal must conform to AFS Combinable Crops Standards 7.0, 7.1 and 7.4

## **2.12 Waste Management**

Any materials considered to be waste must be visually identified as such and promptly segregated in a manner that will eliminate the likelihood of accidental or inadvertent use.

2.12.1 Waste must not be collected or stored in any container that may be used for raw materials or feed ingredients.

2.12.2 Containers used to store waste that is attractive to pests and vermin must be covered. Such waste containers must also be stored away from raw material and feed ingredient storage or production areas and removed from site as frequently as practical.

2.12.3 All waste must be disposed of legally.

## **2.13 Dust Control**

Participants must take reasonable precautions to limit the accumulation of dust and other residual materials in areas where raw materials and feed ingredients are either processed or stored.

## **2.14 Process Water & Water Used For Cleaning Purposes**

A risk assessment of any water that comes into contact with either the oilseed meal, or any process / handling equipment, must be included in the HACCP study.

2.14.1 If a risk is highlighted participants must either carry out water quality tests or receive test results from their water provider at a frequency dictated by risk assessment, to ensure that standards required by the risk assessment study are being achieved. Records of water quality tests must be maintained.

2.14.2 Where additives (such as water softeners, anti-corrosion agents, etc.) are included in water that will come into contact with feed ingredients, either as water or steam:

- i) These additives must be considered in the HACCP study.
- ii) Any dosing systems must be calibrated and controlled to ensure the correct level of addition.
- iii) Records of additive dosing must be maintained.

2.14.3 No waste water or material recovered from waste water systems may be incorporated into feed ingredients.

2.14.4 Separate water systems (e.g. fire control) must be identified and must not connect with, or allow reflux into, water used for processing or cleaning.

## **2.15 Control of Contaminants**

Control of contamination by mycotoxins must conform to AFS Combinable Crops Standard 13.0

2.15.1 Controls must be in place to protect oilseeds and feed ingredients from other contamination. Where oilseed processing is undertaken close to edible oil refining, it

is often the practice for bleaching earth, gums and other refinery products to be added into the feed ingredients. Where this is the case, participants must be able to demonstrate that these products will not be hazardous to the feed ingredients.

2.15.2 The contamination of oilseed meal with non-food grade hydraulic oils or lubricants must be avoided and the risk of contamination with food grade hydraulic oils and lubricants must be minimised.

#### **2.16 Sieves, Screens, Filters & Separators, Magnets & Metal Detectors**

Magnets and / or metal detectors must be included in processing systems where indicated as necessary by the risk assessment study.

2.16.1 Critical sieves, screens, filters, separators, magnets and metal detectors must be regularly checked to ensure that they are not damaged and that they continue to operate effectively. Records of checks of all magnets and metal detectors must be kept.

2.16.2 If separators, sieves or screens are used to clean products and cleanings from this equipment form a component of the oilseed meal produced, producers must be able to demonstrate that potentially harmful cleanings are separated from those destined for feed use. Such harmful cleaning must be disposed of and not reincorporated into the meal at any stage.

#### **2.17 Livestock health monitoring**

Where cold crush oilseed processing takes place on a site where livestock are kept, there must be a regular herd health monitoring system\* carried out by a veterinary practitioner at intervals advised by the practitioner, with special attention to salmonella and to any easily transmissible diseases related to both human and animal health. Records of this monitoring must be kept.

*\*Note:*

*Members of farm assurance schemes covering livestock production can use existing documentation such as Herd Health Plans or Flock Health Plans as part of evidence of a regular herd health monitoring system*

### **SECTION 3 TRANSPORT**

#### **3.1 Transport**

Transport used for the delivery of oilseeds or oilseed meal must conform to AFS Combinable Crops Standards 8.1 – 8.12 as appropriate. In addition, no vehicle used for the transport of livestock may be used for the transport of oilseed meal either inside the site or for external delivery

3.1.1 If the participant is responsible for arranging transport of oilseed meal to purchasers operating under a certificated assurance programme, he must ensure that the specific transport requirements of that programme are met.

### **SECTION 4 PRODUCT SAFETY MANAGEMENT**

#### **4.1 HACCP**

A formal food/ feed safety risk assessment must be carried out with the aim of identifying and controlling hazards that might adversely affect the integrity of stored materials or the safety of any oilseed meal supplied. Risk assessments must be carried out in accordance with recognised HACCP principles as summarised below and detailed in Appendix 1:-

- i) Establish a risk assessment team (if more than one person is involved in the processing;
- ii) Define process steps
- iii) Carry out hazard analysis
- iv) Establish critical limits
- v) Identify Critical Control Points
- vi) Implement Control Measures
- vii) Establish Corrective Actions
- viii) Carry out review/internal audits

#### **4.2 Raw Materials**

Participants must record the following for the oilseeds utilised to produce feed ingredients:

- i) The name and address of the supplier of the raw material.
- ii) Information of the production or process from which the raw material is derived.
- iii) A risk assessment for the oilseeds, identifying potential hazards (e.g. type of drier, maintenance, bitumen floor joint sealant etc) and the means by which these hazards are controlled by the supplier, the participant or both parties.

4.2.1 Where risk assessments identify the need for specific controls or limits to ensure the appropriate management of potential hazards, these must be included in the specifications agreed with suppliers of the affected raw materials.

#### **4.3 Buying-in and Trading of Feed Ingredients**

Where participants buy-in oilseed meal in order to meet contractual agreements, whether due to mechanical breakdowns or as part of normal trading activity, oilseed meal may only be sourced from companies currently certificated against this standard

#### **4.4 Assessment of Suppliers**

Oilseed suppliers must be members of a recognised assurance scheme such as ACCS, SFQC or GQA

#### **4.5 Control of Monitoring & Measuring Devices**

All inspection, measuring and test equipment used to confirm that oilseed meal meets specified feed safety requirements must be calibrated annually.

4.5.1 The participant must ensure that:

- i) Calibration acceptance criteria are defined.
- ii) Calibrated equipment is traceable to national standards or when this is not possible that the basis of the calibration is defined.
- iii) All relevant equipment is uniquely identified and traceable to calibration records.
- iv) The calibration frequency is defined.

4.5.2 If equipment is found to be performing outside acceptable calibration limits the participant must investigate the effect this will have on the conformity of any feed ingredients and take appropriate corrective action to recalibrate the equipment. Depending on the severity of the discrepancy and the nature of the test, the participant must be able to demonstrate that appropriate action has been taken (for example feed ingredient recall).

4.5.3 Records of the results of calibration and verification must be maintained.

#### **4.6 Delivery Documents & Labels**

Delivery documents must be clear and unambiguous. All relevant contractual and legal information must be included on delivery documents (or on labels attached to the product packaging).

- 4.6.1 For oilseed meal sold in bulk, as well as in bags, delivery documents / labels must include any details (such as Statutory Statements) required under Labelling Regulations in the country of production and / or receipt.
- 4.6.2 Any information provided on delivery documents / labels must be valid for the oilseed meal associated with them.

#### **4.7 Identification of Products Not Intended For Feed Use**

Any raw materials, intermediate or finished products produced or stored in the same premises by the participant but not intended for feed use must be clearly segregated from feed ingredients and identified as such during all stages of production / processing, packing, storage, despatch and supply.

#### **4.8 Inspection**

Participants must have inspection regimes in place that ensure the safety of all raw materials on arrival (if appropriate) and oilseed meal on despatch. Inspections must include, as appropriate, assessment of:

- i) Colour
- ii) Physical form
- iii) Odour
- iv) Contamination by insect pests, droppings and other extraneous matter
- v) Mould
- vi) Excessive damage
- vii) Compliance with specification

#### **4.9 Sampling**

Sampling schedules must be the responsibility of the designated 'Quality Manager'. Details of the location, method and frequencies for sampling must be documented and appropriate for oilseeds and oilseed meal.

- 4.9.1 All raw materials and feed ingredients must be subject to a sampling regime. Sampling techniques and frequencies must be adequate to ensure true representation of any feed ingredients supplied.
- 4.9.2 The sampling regime must be appropriate to the volume of oilseeds and oilseed meal concerned.
- 4.9.3 Samples of both oilseeds and oilseed meal must be retained for a minimum period of three months, unless risk assessment studies show that shorter periods are sufficient or longer periods required.
- 4.9.4 Samples must be kept in appropriate, air-tight containers and labelled in such a way as to assist traceability.
- 4.9.5 Storage conditions for samples must be such that deterioration is minimised.
- 4.9.6 Disposal of samples must be controlled under formal procedures and where they are incorporated back into oilseed meal, this must not create any potential hazard.

#### **4.10 Analysis**

Where analysis is carried out, participants must be able to demonstrate that adequate tests are being undertaken using methodology that is appropriate to the raw materials and feed ingredients concerned. Analysis may be carried out by arrangement with customer(s).

4.10.1 Testing schedules for analysis must be the responsibility of the designated 'Quality Manager' and must include both chemical and microbiological testing, as identified by the HACCP plan.

4.10.2 Testing methodology must be robust enough to ensure both the safety of the oilseeds used and oilseed meal supplied. The nature and frequency of tests carried out must show consideration of the volume and potential risks associated with oilseeds and oilseed meal.

#### **4.11 Undesirable Substances**

In addition to sampling and testing required to establish other analyses, evidence must be available to show that oilseeds meet acceptable, and if applicable, statutory standards for levels of undesirable substances such as mycotoxins, dioxins, heavy metals and pesticide residues. The producer's risk assessment must evaluate the potential hazards arising from naturally occurring toxins (see AFS Combinable Crops Standard 6.18).

#### **4.12 Microbiological Analysis**

Sampling and testing schedules for microbiological analysis must be the responsibility of the designated 'Quality Manager'.

4.12.1 Participants must be able to demonstrate that the level of microbiological sampling and testing carried out will ensure the safety of any feed ingredients supplied.

#### **4.13. Testing Laboratories**

The methods of analysis employed in laboratories must be appropriate for oilseeds and oilseed meal being tested.

4.13.1 The effectiveness of testing laboratories must be regularly reviewed and approved by one or more of the following methods:

- i) Accreditation by a nationally recognised accreditation authority according to EN-ISO-17025 for the test under consideration.
- ii) Validation by participating in relevant ring tests.
- iii) Validation by other recognised means or comparison with results of a recognised laboratory with verified quality control procedures.

#### **4.14 Test Records**

The parameters for acceptance or rejection of both oilseeds and oilseed meal must be clearly defined.

4.14.1 Test results for oilseeds and oilseed meal must be recorded and include clear evidence of action in the event of results falling outside of acceptable parameters.

#### **4.15 Traceability of Oilseeds**

Participants must be able to demonstrate traceability for the oilseeds utilised to produce oilseed meal.

- 4.15.1 To ensure traceability of oilseeds, the participant must:
- i) Record the names and addresses of suppliers of incoming oilseeds,
  - ii) Record the type and quantity of incoming oilseeds
  - iii) Identify the transport means and unique identification reference of the transport for all incoming oilseeds.

4.15.2 Although the participant need not hold all relevant traceability records for oilseeds, they must be capable of accessing such records if required to do so.

#### **4.16 Non Conforming Products**

Participants must establish a documented procedure for dealing with oilseeds that do not comply with specifications. This procedure must include:

- i) Identification of batches / lots affected.
- ii) Documentation for managing and recording non-conforming products.
- iii) Evaluation of the cause of the non-conformance.
- iv) Segregation of batches / lots affected.
- v) Communication with relevant parties.
- vi) Preventive or corrective action to avoid repetition of the non-conformance.

4.16.1 Responsibility for review and disposal of non-conforming products must be defined. All incidences of non-conforming oilseeds must be recorded and decisions regarding actions to be taken must only be made by authorised personnel.

4.16.2 Non-conforming oilseeds must be dealt with in one of the following ways:

- i) Sent to waste
- ii) Reworked
- iii) Accepted by concession (if agreed in writing by the client)

4.16.3 Requirements for reprocessing non-conforming oilseeds must be documented and any affected oilseeds be re-evaluated on completion to ensure that the batch / lot concerned subsequently meets specified requirements.

4.16.4 The approval and use of reworks (e.g. from quality rejects, customer returns or spillage) must be considered within the HACCP plan. Those that are not approved must become waste and be disposed of accordingly.

#### **4.17 Complaints Procedure**

Participants must document the procedure for handling customer complaints. This procedure must include systems for:

- i) Recording the characteristics of complaints.
- ii) Allocating responsibility for managing complaints.
- iii) Recording the name of complaining customers.
- iv) Recording the feed ingredients under complaint.
- v) Investigating the causes of complaints.
- vi) Recording any actions taken to address complaints.
- vii) Recording correspondence with customers with regard to complaints.

4.17.1 With due regard to the seriousness and frequency of complaints, corrective actions must be carried out in a timely and effective manner.

4.17.2 Where appropriate, complaint information must be used to avoid recurrence and implement ongoing improvements.

4.17.3 Wherever possible, complaints must be resolved to the customer's satisfaction.

#### **4.18 Recall Procedure**

Participants must develop a documented recall procedure that ensures customers can be informed promptly in the event of any irregularity that may adversely affect oilseed meal safety.

4.18.1 The recall procedure must detail responsibilities and include actions to be implemented in the event of a recall.

4.18.2 As part of the recall procedure, all relevant contacts must be listed and kept up-to-date. Contacts listed must include the Competent Authorities to be notified in the following circumstances:

- i) In the event of a serious safety risk.
- ii) When legal limits are exceeded and national legislation requires notification.

4.18.3 Recall procedures must include systems for:

- i) Identifying the non-conforming oilseed meal batch / lot
- ii) Identifying the location of affected batches / lots.
- iii) Management of returned oilseed meal, including segregation from other products.
- iv) Recording the destination of any recalled products.

4.18.4 Products that have been recalled may only be reprocessed or otherwise put back into circulation following formal assessment that it is both legal and safe to do so. Records must be kept of any such assessment.

#### **4.19 Internal Audits**

Participants must have a documented procedure for internal auditing.

4.19.1 Internal auditing procedures must require the participant to carry out a programme of planned internal audits to check that internal systems are operating as intended and are also effective. Such internal audits must encompass:

- i) Compliance with the requirements of this standard.
- ii) Compliance with the requirements of the participant's HACCP Plan.
- iii) Compliance with the participant's formal procedures.
- iv) Compliance with legislation pertaining to feed ingredient safety and quality.
- v) Satisfaction of specified customer requirements.

4.19.2 The programme of internal audits must ensure that all relevant activities are audited at least once a year.

4.19.3 All personnel carrying out internal audits must be trained to carry out such audits and be able to demonstrate their effectiveness in the role.

4.19.4 Internal audits must be formally reported to those with responsibility for the area audited and record any aspects where the operations are not in compliance with operational requirements. Such areas of non-compliance must be corrected and audit report records signed off by an authorised person to indicate that problems have been corrected satisfactorily.