

FEED MATERIALS
ASSURANCE SCHEME

OILSEED PROCESSING SECTOR NOTES

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NOTE: Although these Sector Notes may be translated into various languages for the convenience of users, the English version remains the definitive reference document in the event of any dispute.

NOTES ON THE IMPLEMENTATION OF FEMAS FOR BUSINESSES PROCESSING OILSEEDS

Sector Notes are provided to assist FEMAS participants and assessors in establishing some background knowledge of specific feed industry supply sectors where issues may exist that are uncommon, or of less relevance, in other sectors. These Notes are not necessarily exhaustive.

These Sector Notes are relevant to businesses involved in the processing into animal feed of oil seeds. This includes the production of expelled or extracted oilseed cakes and meals; the production of crude oils; the production of extruded oilseed and pulse blends.

The most frequently encountered (but not the only) oilseeds used in animal feeds include: Groundnut (also known as 'monkey nut' or 'peanut'), Rapeseed (brand named as 'Canola' in North America), Safflower seed, Copra (also commonly called 'coconut'), Palm kernel (from the oil palm *Elaeis guineensis*), Soya bean, Cotton seed, Niger seed, Sunflower seed, Linseed (brand named as 'Linola' in North America), Olive, Sesame seed, Cocoa bean, Shea nut.

These Notes are laid out in the same format as the FEMAS International Core Standard. Where additional comment is necessary, the clause reference is to the appropriate section of the FEMAS International Core Standard. It is emphasised that the comments included in this document are intended to assist in the application of the corresponding requirements of the FEMAS International Core Standard and are not to be considered in isolation. For clauses where no additional comments are provided in this document, the original requirements of the FEMAS International Core Standard continue to apply without any additions or exclusions.

In subsequent issues, additions and amendments to these Notes will be shown in *blue italics*, for ease of reference.

The expert knowledge and assistance of members of the UK Oilseed Processing Industry in preparing these Sector Notes is gratefully acknowledged.

1.10 Definitions

By-product (Co-product): Product produced as the result of a process primarily intended to produce a different product.

Expellers: Feed ingredient from which the majority of the oil has been removed by the application of mechanical energy.

Extractions: Feed ingredient from which the oil has been removed by the use of a chemical solvent such as hexane. This may or may not be subsequent to initial expelling.

Extrusions: Feed material produced by mechanically forcing material through an orifice under pressure.

Crude Oils: Edible oils processed only to the extent that they are made chemically stable and not refined to the extent normally required for human consumption with regard to taste and colour.

***Oilseeds:** Seeds containing high levels of natural oils used for food and other purposes. These include: groundnut (peanut or monkey nut), oilseed rape (including canola), safflower, copra (coconut), oilseed palm fruit, palm kernel, soya bean, cotton seed, niger seed, sunflower seed, linseed (including linola and flax), olive pulp, sesame seed and cocoa bean.*

For additional definitions refer to FEMAS International Core Standard

SECTION 3 RESOURCES AND GOOD HYGIENIC PRACTICES

3.7 Driers / Drying

Where participants receive oilseeds that have been dried prior to receipt, they must be able to demonstrate that no additional hazards have been introduced to the product during the drying process. Of particular interest are any potential chemical contaminants resulting from oilseeds coming into contact with combustion gases or fuels that are only partially combusted.

3.8 Cross-Contamination

Where participants are involved in the processing of more than one kind of oil seed, 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 oil seeds 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.

3.10 Pest Control

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

3.16 Control of Contaminants

Where participants incorporate flow agents into feed ingredients, valid data must be provided to demonstrate that no additional hazards are created from the presence of undesirable substances in the flow agent.

Where oil seed 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.

SECTION 4 TRANSPORT REQUIREMENTS

4.2.3 Inspections of Land Transport Prior to Loading

Where the health and safety of quality personnel would be put at risk by climbing onto road tankers to carry out internal inspections, participants must comply with one of the following:

- Allow safe access by provision of safety platforms from which inspections may be done
- Nominate and train drivers to undertake inspections (in which case records of training must be held)
- Utilise risk assessment methodology to put in place alternative controls that will ensure issues of cross-contamination can be avoided (e.g. by use of dedicated tankers). In any such assessment, consideration must be given to the potential effects of inadvertently mixing different grades of the same product.

SECTION 5 PRODUCT SAFETY MANAGEMENT

5.1.5 Hazard Analysis / Identification (CODEX Principle 1)

If, in the event of solvent extractor breakdown, it is the participant's intention to produce expeller meals for feed use, the participant's HACCP study must include provision for the safe supply of these products in addition to the 'normal' extracted products.

5.6 Process Control

Where Oil Seeds contain naturally occurring anti-nutrients (e.g. Trypsin Inhibitor in Soya), process temperatures, times and pressures may be critical in reducing the presence of these anti-nutrients in feed ingredients to acceptable levels. Where this is the case, participants' HACCP studies must take this into account and records must be kept to verify that any critical parameters identified in the HACCP study are being met.

In extraction plants the removal of solvent from feed ingredients after the extraction process must be controlled such that the presence of hexane is reduced to acceptable and (where this applies) legal levels.

5.8 Preservation of Microbiological Status

Due to the nature of oilseed processing, special care must be taken in considering areas where warm and cold product streams meet, as the resulting condensation can create ideal conditions for pathogens.

5.13.5 Undesirable Substances

Participants' risk assessments must evaluate the potential hazards arising from naturally occurring toxins produced by moulds and fungi known to attack the oilseed species being processed (for example Aflatoxins produced by the various *Aspergillus* species and mycotoxins produced by the various *Fusarium* species). Where identified as potential hazards by the HACCP study, appropriate measures must be put in place to ensure no statutory maximum limits for toxins are exceeded in any feed ingredients produced.

Seasonal conditions may increase the risk of mould or fungal attack in oilseeds. Participants must be aware of such potential hazards and have procedures in place to ensure that they are properly controlled.

Applicable Regulations

There are no specific regulations applicable to Products & By-Products of Oilseed Processing over and above those regulations that apply to all feed ingredients.