

Measures for the Safe Handling of Grains, Oilseeds and Legumes



Deutscher Raiffeisenverband e.V. 

Measures for the safe handling of grains, oilseeds and legumes

(Issue: May, 2017)

This leaflet summarizes the key steps to ensure high quality grain, oil seed and legume quality. In addition, the rules of good agricultural practice and the rules of food and feed legislation must be observed by all parties involved in the value chain. For processed products, further regulations apply.

Regular records of in-house measures document quality assurance and support traceability. This applies to all market partners. Appropriate notes on the documentation are marked with the asterisk (*) in the following text. With the "Basisdokumentation Ackerbau" / "Base Documentation for field crop production" (crop field log, warehouse- and transport documentation) the entire process is depicted.

Dusts or other contaminants adhering cereals, oilseeds and legumes may cause stress factors that are undesirable in food and feed production. These must be eliminated so that they are removed from the rest of the processing chain. In addition, the chain from the farm to the processing should also prevent unwanted mixing with other raw materials.. A such mixing can lead to incalculable risks for all companies in the relevant product value chains.

1. Cultivation

- All agronomical and phytosanitary measures should be aimed to minimizing undesirable substances in the food chain. According to the legal requirements, the plant protection should be carried out only by specially skilled persons which are holding the appropriate qualifications and further education required by law.
- High mycotoxin levels can lead to considerable restrictions on the utilization and marketing possibilities of the seeds. Among others, the following measures should be taken to mitigate this risk:
 - Selection of site-adapted, low-susceptible varieties;
 - Site- and situation-adapted soil cultivation;
 - Crop rotation;
 - Timely optimized fungicide use;
 - Sidelines (field border) hygiene (weed control).
- The use of organic substances as fertilizers (sewage sludge, meat or bone meal, fermentation substrates from waste-treating plants), also unintentional entries of utilization of the harvested product must be expressly communicated to the market partners.

2. Harvest

- Unwanted substances (foreign matter and dust particles) as well as broken grain are already significantly reduced during harvesting due to the correct cutting height and optimal setting of the combine harvester (sieves, air blow, etc.).

3. Transport

- Combines and all means of transport (including foreign vehicles), e.g. trailers, trucks, containers and ships must be clean, dry and suitable for transport to avoid contamination. When using cleaning agents, disinfectants and surface-care products, it must be ensured that only food-compatible substances are used.
- Contaminated transport means (that are not in line with the 'food grade' requirements) must be carefully cleaned before loading (sweeping and/or compressed air or wet cleaning, if necessary disinfection and rinsing with clear water).
Transport means (load compartments) which do not comply with the required standard of cleanliness may not be loaded.
- Means of transport **shall not** be loaded with cereals, oilseeds and leguminous plants, unless previously used for the carriage of the following goods in bulk, unless the transporter proves that the means of transport and the load compartments – in accordance with a specified procedure conducted by an approved testing organization or authorized person – have been released before loading:

- asbestos and asbestos-containing materials,
- animal parts (e.g. slaughterhouse waste, meat-bone meal, meat- and bone meal, fish meal, food leftovers),
- sewage sludge, faeces and animal excrements (animal manure),
- household- and industrial waste,
- glass, metal shavings (swarf),
- corrosive or toxic substances (also **dressed seeds and seedlings in bulk**).

Information on transport sequences, specific cleaning procedures and other undesirable prior loads may be included; among others the Load-/Road Transport Database (www.icrt-idth.com/de/index.php?setlang=de), the QS Feed Sector Guide (Chapter 5) and the VDM Guidelines on Storage, Transshipment and Transport.

4. Storage

4.1. Measures before storage

- For the intermediate storage of cereals, oilseeds and legumes on transport means, measures (i.e. plans) should be taken to protect against external influences.
- The immediate loading and unloading area must be in a clean and easy-to-clean condition. **No storage of dressed seed and plant materials (bulk), pesticides, mineral oils and other hazardous substances allowed in storage compartments for grains, oilseeds and legumes !**
- The walls, floors and other surfaces of the storage compartments including conveyors, gutters and lifts, as well as dryers must be cleaned and kept free of pests, moulds and moisture.
- Buildings used for storage must be dry and protected against ingress of moisture; leakages must be repaired before storage. Exceptionally, crops stored on open land at short notice must be protected against adverse effects.
- Measures must be taken to prevent access and contamination by pets, birds, rodents, etc. Therefore doors and windows of the warehouse should be kept closed or secured by suitable protective means (e.g. by nets).
- In order to avoid the risk of contamination for grains, oilseeds and legumes by foreign bodies, light bulbs and fluorescent tubes are to be protected against glass breakage or sheathed. Generally, other foreign bodies also should be removed from the storage area.
- Tools, screws, etc. must be removed from the warehouse (storage compartment) immediately if they are no longer needed there.
- When using preservatives, the approval for the respective stored goods must be observed; avoid mixing with other raw materials (special caution should be paid e.g. for rapeseed storage after grain storage).

4.2. Measures for loading-in and during the storage

- During storage, contamination of any kind and mixing with other raw materials should be avoided.
- Cereals, oilseeds and legumes should be stored in a sound condition according to their storage life (e.g. by cleaning, cooling, drying and/or aeration).
- The drying of cereals, oilseeds and legumes must be quality-oriented and carried out so that the contents of undesirable substances are not increased or avoided. This requires suitable equipment and matched fuel materials.
- For direct drying, the burner must be checked annually by a service company for correct setting and combustion (test report / gas flow measurement) before commissioning. Taking a retention sample and the examination of the dry goods for contaminant residues is also recommended.*
- The temperature and the overall condition must be checked regularly (at least every 14 days from the beginning of storage). Every increase in temperature must be investigated more closely in order to be able to take appropriate measures in the right time.*
- After the harvest, chemical treatments carried out for the maintenance of sound goods' condition (including parts of a lot) should be shared with the buyer **in writing**.

The original German version of this informative leaflet has been mutually developed by the following associations:

DE

Deutscher Raiffeisenverband e.V.
 Deutscher Bauernverband e.V.
 Bundesverband der Agrargewerblichen Wirtschaft e.V.
 Bundesverband Güterkraftverkehr Logistik und Entsorgung e.V.
 Deutscher Mälzerbund e.V.
 Deutscher Verband Tiernahrung e.V.
 Union zur Förderung von Öl- und Proteinpflanzen e.V.
 Verband der Getreide-, Mühlen- und Stärkewirtschaft VGMS e. V.
 Verband der ölseedenverarbeitenden Industrie in Deutschland e.V.

EN

German Raiffeisen Association e.V.
 German Farmers Association e.V.
 Federal Association of the Agricultural Business e.V.
 Federal Association of Road Haulage Logistics and Disposal e.V.
 German Mälzerbund e.V.
 German Association Pet Food e.V.
 Union for the promotion of oil and protein plants e.V.
 Association of the grain, mill and starch industry VGMS e. V.
 Association of the oilseeds processing industry in Germany e.V.