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**Animal feed production, processing,
storage and distribution—Code of practice**

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In order to match with technological development and to keep continuous progress in industries, standards are subject to periodic review. Users shall ascertain that they are in possession of the latest edition

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Contents	Page
Foreword	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Production, processing, storage, transport and distribution of feed and feed ingredients.....	4
4.1 General requirements.....	4
4.2 Incoming feeds	4
4.2.1 General requirements.....	4
4.2.2 Delivery, intake and storage of incoming feed.....	5
4.3 Production and processing of animal feeds and feeds ingredients	6
4.3.1 General.....	6
4.3.2 Premises	6
4.3.3 Feed ingredients mixing.....	6
4.3.4 Manufacturing controls.....	6
4.3.5 Temperature and time control, pelleting and cooling.....	7
4.3.6 Metal detection and magnets.....	7
4.3.7 Finished feed packaging.....	7
4.3.8 Finished feed labelling	7
4.3.9 Storage of finished feed.....	8
4.3.10 Transport and delivery	8
4.4 Management of returns	9
4.5 Product traceability and records keeping.....	9
4.5.1 General requirements.....	9
4.5.2 Incoming feed	10
4.5.3 Finished feed	10
4.5.4 Delivery	11
4.5.5 Special conditions applicable to emergency situations.....	11
4.6 Quality assurance, inspection and control procedures.....	11
4.7 Equipment performance and maintenance	12
4.8 Sanitation and pest control.....	12
4.9 Personnel training.....	13
5 On-farm production and use of feed and feed ingredients	13
5.1 General.....	13
5.2 Agricultural production of feed.....	13
5.2.1 General.....	13
5.2.2 Site selection	13
5.2.3 Fertilizers	14
5.2.4 Pesticides and other agricultural chemicals.....	14
5.3 Manufacturing of feed on-farm	14
5.3.1 Feed ingredients.....	14
5.3.2 Mixing	14
5.3.3 Monitoring records.....	14
5.4 Good animal feeding practice.....	15
5.4.1 Water	15
5.4.2 Pasture grazing	15
5.4.3 Feeding	15
5.5 Stable feeding and lot/intensive feeding units.....	15
5.5.1 Hygiene	16
5.6 Aquaculture	16

PUBLIC REVIEW

Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

DRS 98 was prepared by Technical Committee RSB/TC 008, *Animal feeding stuffs*.

In the preparation of this standard, reference was made to the following standard (s):

- 1) KS 1647: 2001, Code of Practice for Animal Feed Production, Processing, Storage and Distribution

The assistance derived from the above source is hereby acknowledged with thanks.

This third edition cancels and replaces the second edition (RS 98: 2015) which has been technically revised.

Committee membership

The following organizations were represented on the Technical Committee on *Animal feeding stuffs* (RSB/TC 008) in the preparation of this standard.

Akagera Dairy

GORILLA Feeds

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Rwanda Best Ltd

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ZAMURA Feeds

Rwanda Standards Board (RSB) – Secretariat

Animal feed production, processing, storage and distribution — Code of practice

1 Scope

This Draft Rwanda standard specifies requirements for the sourcing of animal feed ingredients, production and use of all materials destined for animal feed and feed ingredients at all levels whether produced industrially or on farm. It also includes grazing or free-range feeding, forage crop production, insects farming and aquaculture.

2 Normative references

There are no normative references in this document

3 Terms and definitions

For the purposes of this standard, the following terms and definitions apply.

3.1

feed ingredient

component part or constituent of any combination or mixture making up a feed

3.2

incoming feed

raw materials delivered at the beginning of the production chain, i.e. feed materials, feed additives, processing aids, premixtures

3.3

feed (or feeding stuff)

any substance or product, including additives, whether processed, partially processed or unprocessed, intended to be directly fed to animals

3.4

record

document stating results/data achieved or providing evidence of activities performed

3.5

control

monitor and measure processes and product against policies, objectives and requirements for the product and report results

3.6

control measure

any action and activity that can be used to prevent or eliminate a food/feed safety hazard or reduce it to an acceptable level

finished feed

products obtained at the end of the processing chain of the company

3.7

traceability

ability to trace and follow a feed or substance intended to be, or expected to be incorporated into a feed, through all stages of production, processing and distribution

3.8

risk assessment

scientifically based process consisting of four steps: hazard identification, hazard characterization, exposure assessment and risk characterization

3.9

risk

function of the probability of an adverse health effect and the severity of that effect, consequential to a hazard

3.10

premixtures

mixtures of feed additives or mixtures of one or more feed additives with feed material or water used as carriers, not intended to direct feeding to animals or blend of fortificants and diluents formulated to provide specified and determinable amounts of micronutrients

3.11**medicated feed**

any mixture of a veterinary medicinal product or products and feed or feeds which is ready prepared for marketing and intended to be fed to animals

3.12**feed hygiene**

measures and conditions necessary to control hazards and to ensure fitness for animal consumption of a feed, taking into account its intended use

3.13**food**

any substance or product, whether processed, partially processed or unprocessed, intended to be, or reasonably expected to be ingested by humans

3.15**batch**

unit of production produced in a single plant using uniform production parameters, or a number of such units [produced consecutively], when stored together, and that can be identified for the purposes of recall and retreatment or disposal

3.16**compound feed**

mixtures of at least two different feed ingredients, whether or not containing additives, for oral animal-feeding in the form of complete or complementary feed

3.17**additives**

substances, microorganisms or preparations, other than feed material or premixtures which are intentionally added to feed or water in order to perform in particular one or more functions (favourably)

3.18**feed material**

Various products of mineral, vegetable or animal origin, in their natural state, fresh or preserved, and products derived from the industrial processing thereof, organic or inorganic substances, whether or not containing 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

3.19

hazard

biological, chemical or physical agent in, or condition of, feed with the potential to cause an adverse health effect

4 Production, processing, storage, transport and distribution of feed and feed ingredients

4.1 General requirements

4.1.1 The production, processing, storage, transport and distribution of safe and suitable feed and feed ingredients shall be the responsibility of all participants in the feed chain, including farmers, feed ingredient manufacturers, feed compounders, truckers, etc. Each participant in the feed chain shall be responsible for all activities that are under their direct control, including compliance with any applicable statutory requirements.

4.1.2 Feed and feed ingredients should not be produced, processed, stored, transported or distributed in facilities or using equipment where incompatible operations may affect their safety and lead to adverse effects on consumers' health. Due to the unique characteristics of aquaculture, the application of these general principles shall consider the differences between aquaculture and terrestrial-based production.

4.1.3 Where appropriate, operators should follow Good Manufacturing Practices (GMPs) and, where applicable, HACCP principles to control hazards that may affect food safety. The aim is to ensure feed safety and in particular to prevent contamination of animal feed and food of animal origin as far as this is reasonably achievable, recognising that total elimination of hazards is often not possible.

4.1.4 A trained employee shall be designated as the person responsible for the production process and all plant personnel should be adequately trained and shall work to GMP.

4.2 Incoming feeds

4.2.1 General requirements

4.2.1.1 Feed materials shall be obtained from sources, preferably, with a supplier warranty and the supplier should have undergone evaluation and recognized by the purchaser prior to delivering. Monitoring of feed ingredients shall include inspection and sampling for contamination using risk based protocols.

4.2.1.2 Minerals, supplements, vitamins, and other additives shall be obtained from manufacturers who guarantee the concentration and purity of ingredients and provide instructions for correct use and expiry dates. The supplier shall be approved by a competent authority.

4.2.1.3 The plant shall have a standard specification mentioning the characteristics required for each incoming feed. The standard specification shall indicate when and to what extent deviations may be accepted.

4.2.1.4 Specifications shall at least cover:

- a) analytical characteristics of the feed materials, feed additives and premixtures;

- b) results of the risk analysis carried out for each incoming feed, e.g. the product specification and monitoring programme for undesirable substances;
- c) list of approved geographic origins and sources;
- d) types of feeding stuffs in which their use is approved; and
- e) notes on any hazards or limitations on their use and any special characteristics of the feed ingredients, feed additives and premixtures.

4.2.2 Delivery, intake and storage of incoming feed

4.2.2.1 Each batch of feed materials, feed additives and premixtures delivered to a plant shall be traceable.

4.2.2.2 Incoming feeds shall meet acceptable and, if applicable, statutory standards for levels of pathogens, mycotoxins, herbicides, pesticides and other contaminants which may give rise to human and/or animal health hazards.

4.2.2.3 Animal products that could be a source of the Bovine Spongiform Encephalopathy (BSE) agent should not be used for feeding directly to, or for feed manufacturing for, ruminants.

4.2.2.4 Veterinary drugs used in medicated feed shall comply with the provisions of the CAC/RCP 38 and CAC/RCP 61.

4.2.2.5 Designated and trained staff shall be present at the point of delivery and intake.

4.2.2.6 Incoming feeds that have been rejected shall be clearly identified and segregated from other materials in a manner which precludes their unauthorised use. Disposal of rejected incoming feeds should be undertaken only after consultation with the manufacturer and/or supplier and should be done in accordance with the standards and regulation in place.

4.2.2.7 Incoming feeds shall be received, handled and stored to maintain their integrity and to minimize misuse or unsafe contamination. There should be a system of site allocation for safe storage (easily identifiable, no mixing with other feed additives, intake identification easily visible). In case of doubt on the identity of a product during storage (damaged packaging), a procedure shall be established whereby the feed safety manager shall decide about the destination of the product (re-identification, clearance for use, disposal, etc.). Records shall be kept about the action taken.

4.2.2.8 Chemical fertilizers, pesticides and other materials not intended for use in feed and feed ingredients shall be stored separately from incoming feeds to avoid the potential for manufacturing errors and contamination of feed and feed ingredients.

4.3 Production and processing of animal feeds and feeds ingredients

4.3.1 General

The effective implementation of GMPs and, where applicable, HACCP-based approaches shall insure, in particular, that the requirements stated in 3.3.2 - 3.3.10 are complied with.

4.3.2 Premises

4.3.2.1 Buildings and equipment used to process feed and feed ingredients shall be constructed in a manner that permits ease of operation, maintenance and cleaning, and minimises feed contamination. Process flow within the manufacturing facility should also be designed to minimise feed contamination.

4.3.2.2 Water used in feed manufacture shall meet hygienic standards for potable water RS EAS 12. Tanks, pipes and other equipment used to store and convey water shall be of appropriate materials which do not produce unsafe levels of contamination.

4.3.2.3 Sewage, waste and rain water shall be disposed of in a manner which avoids contamination of equipment, feed and feed ingredients.

4.3.3 Feed ingredients mixing

4.3.3.1 Additives shall be incorporated in animal feed in accordance with the manufacturer's instructions and legal requirements. A specific attention should be paid to those additives which the standard requires to be incorporated in animal feed in the form of premixtures (liquid or solid), such as Vitamins A and D, coccidiostats and histomonostats.

4.3.3.2 Where automatic dosage is used for feed additives, the equipment shall include adequate dosing and locking systems. The sequence of operations for the transport of additives shall be established beforehand and shall be recorded in a written procedure.

4.3.3.3 Daily administrative records shall be kept on the types of feed manufactured (name) and the quantity of additives (or premixtures containing additives).

4.3.3.4 The composition of a batch of animal feeds to which additives are added shall respect the fixed tolerances set in the product specifications.

4.3.4 Manufacturing controls

4.3.4.1 Manufacturing procedures shall be used to avoid cross-contamination (such as flushing, sequencing and physical clean-out) between batches of feed and feed ingredients containing restricted or otherwise potentially harmful materials (such as certain animal by-product meals, veterinary drugs). These procedures shall also be used to minimise cross-contamination between medicated and non-medicated feed and other incompatible feed. In cases where the food safety risk associated with cross-contamination is high and the use of proper flushing and cleaning methods is deemed insufficient, consideration shall be given to the use of completely separate production lines, transfer, storage and delivery equipment.

4.3.4.2 Pathogen control procedures, such as heat treatment or the addition of authorised chemicals, shall be used where appropriate, and monitored at the applicable steps in the manufacturing process.

4.3.5 Temperature and time control, pelleting and cooling

4.3.5.1 Where the temperatures of the finished feed, process and/or environment are critical to the product's safety and legality, this shall be adequately controlled, monitored and the control measures be recorded.

4.3.5.2 Air drawn into the cooler is a potential source of bacterial contamination. Therefore, it shall as far as possible be drawn from clean areas of the mill, and in particular not be drawn from intake areas.

4.3.5.3 The pelleting conditions shall be adapted to the stability of the incorporated feed additives.

4.3.6 Metal detection and magnets

Metal detection equipment and magnets shall be included in the processing systems where necessary and regularly checked for their effective operation. Records of the checks shall be kept.

4.3.7 Finished feed packaging

4.3.7.1 Finished feed packaging shall meet either internal or customer specifications and be suitable for the means of delivery and transport used and the type of finished feed. The packaging shall be designed to protect finished feed from contamination and deterioration.

4.3.7.2 The packaging as well as the delivery documents shall be clear and unambiguous. All relevant information in accordance with 3.3.8 shall be included on delivery documents or attached labels to the product packaging.

4.3.7.3 Pallets shall be clean, in good state and stored in a dry environment

4.3.8 Finished feed labelling

Labelling shall be clear and informative as to how the user should handle, store and use feed and feed ingredients and shall be consistent with any statutory requirements. Labelling or the accompanying documents shall contain but not limited the following:

- a) information about the species or category of animals for which the feed is intended;
- b) net content;
- c) list of feed ingredients, including appropriate reference to additives, in descending order of proportion;
- d) contact information of manufacturer or packer;
- e) directions and precautions for use, if applicable;
- f) batch identification;

- g) manufacturing date; and
- h) "use before" or expiry date.

4.3.9 Storage of finished feed

4.3.9.1 Finished feeds shall be separated from unprocessed ingredients.

4.3.9.2 Storage places shall be designed in a way that they are easy to clean and to minimize accumulation of spoiled ingredients or other contaminants.

4.3.9.3 The finished feed shall be kept in good hygienic storage places and only be accessible to persons who are granted an authorization by the manufacturer.

4.3.9.4 Storage areas shall be constructed to insure maximum prevention against the entrance of domestic, feral and wild animals and insects.

4.3.9.5 Storage places containing finished feed shall be monitored for temperature and moisture. Elevated temperature and moisture levels are an early sign of deterioration in feedstuffs and finished feeds due to fungal growth or insect infestations.

4.3.9.6 Procedures should be established to keep to a minimum the proportion of out-of-date stocks (e.g. first-in-first-out principle) by applying a careful stock rotation. Materials shall be stored in such a way that they are clearly identifiable, and that their intake identification is easily visible. The effectiveness of the stock rotation shall be monitored by the feed safety manager.

4.3.9.7 The way in which finished products are stored shall in no way lead to confusion or contamination between different finished feed, between feed ingredients or feed additives containing high levels of undesirable substances and finished feed or between supplemented feeding stuffs and feed additives.

4.3.9.8 Waste feed and other material containing unsafe levels of undesirable substances or any other hazards should not be used as feed and should be disposed of in an appropriate manner in compliance with any applicable standard/regulation requirements.

4.3.10 Transport and delivery

4.3.10.1 The transport of incoming as well as finished feed shall be made by using only clean vehicles.

4.3.10.2 All means of transport, whether in bulk or packed, shall be appropriate and adequately controlled with specific regard to hygiene and potential contamination.

4.3.10.3 To facilitate the traceability of finished products during or after transport, the individual load shall be recorded.

4.3.10.4 The feed manufacturer shall develop a system for order taking and fulfilment to ensure that the customer receives the type of feed ordered in safe and hygienic conditions.

4.3.10.5 Before the feed is loaded, no materials from previous loadings shall remain in the vehicle (tank truck, boxes) which shall be clean and dry.

4.3.10.6 Incoming and finished feed shall be protected from contamination and kept dry during transport. Enclosed vehicles or containers should be used whenever possible for loose bulk, but where this is impracticable, the loads shall be covered. The cover used shall be maintained in a clean condition by being regularly cleaned, sanitised and dried.

4.3.10.7 Records and other information should be maintained as indicated in 3.5 to include the identity and distribution of feed and feed ingredients so that any feed or feed ingredients considered to pose a threat to consumers' health can be rapidly removed from the market and that animal exposed to the relevant feed can be identified.

4.4 Management of returns

4.4.1 The production of finished feed shall be organised, both on an internal and external level, with an eye to limit possible returns to a minimum.

4.4.2 Approval of any return for rework shall be formal and recorded. This shall be a function of the feed safety manager.

4.4.3 Returns shall, whenever possible, be reincorporated into their original batch or "run". The reincorporation process shall take place in accordance with procedures determined by the feed safety manager.

4.4.4 If returns cannot be reincorporated into their original batch or "run", the manufacturer shall clearly indicate in which suitable containers the feed returns shall be stored.

4.4.5 Procedural rules shall lay down in which feed formulation, returns may be incorporated and the maximum percentage of returns in the respective feed type. In no case a product containing an ingredient subject to restrictions of use shall be reprocessed into a batch designed for species for which this material is prohibited.

4.4.6 The quantity of returns, which have been reprocessed, shall be recorded on a daily basis. These administrative registers shall also indicate the batches of the respective feed type, in which these returned products were reprocessed.

4.5 Product traceability and records keeping

4.5.1 General requirements

4.5.1.1 Traceability/product tracing of feed and feed ingredients, including additives, should be enabled by proper record keeping system for timely and effective withdrawal or recall of products if known or probable adverse effects on consumers' health are identified.

4.5.1.2 Records should be maintained and readily available regarding the production, distribution and use of feed and feed ingredients to facilitate the prompt trace-back of feed and feed ingredients to the immediate previous source and trace-forward to the next subsequent recipients.

4.5.2 Incoming feed

4.5.2.1 Records shall be kept but not limited of the following details for each delivery of incoming feed:

- a) date/time of intake;
- b) delivery vehicle identification;
- c) name and nature of incoming feed;
- d) quantity delivered;
- e) name of supplier;
- f) delivery order or reference;
- g) analytical results relevant for the feed safety management;
- h) country of origin; and
- i) identifier of storage allocation

4.5.2.2 For purchased premixtures, the following additional records shall be kept: Manufacturers' batch number(s) and number of containers for each batch

4.5.2.3 For additives, the following additional records shall be kept:

- a) manufacturers' batch number(s) and number of containers for each batch;
- b) generic name of the feed additives;
- c) average quantities of active substances guaranteed by the supplier;
- d) instructions of use; and
- e) shelf life time

4.5.3 Finished feed

Records shall be kept but not limited to the following details for each batch of manufactured products:

- a) name, nature and category of the feed;
- b) batch number;

- c) manufacturing date;
- d) nature and proportion of feed materials, premixtures and feed additives used in accordance with the actual formula; and
- e) identifier of storage allocation.

4.5.4 Delivery

Records shall be kept regarding the customer to whom the final product was sold to:

- a) name, nature and category of the feed Batch number;
- b) name and address of the customer;
- c) date/time of delivery;
- d) delivery order or reference; and
- e) delivery vehicle identification.

4.5.5 Special conditions applicable to emergency situations

Operators should, as soon as reasonable, inform and notify the competent authorities in the country or in the importing country if they consider that a feed or feed ingredient does not comply with the feed safety requirements. The information should be as detailed as possible and should at least contain a description of the nature of the problem, a description of the feed or feed ingredients, the species for which it is intended, the lot identifier, the name of the manufacturer and the place of origin. The competent authorities and operators should immediately take effective measures to ensure that those feed or feed ingredients do not pose any danger to consumers' health.

4.6 Quality assurance, inspection and control procedures

4.6.1 Quality assurance begins with the concept of what the feed product is to be, in terms of the species being fed and the expected results.

4.6.2 Ingredient specifications are important to quality assurance in defining the quality of the feed stuffs to be accepted by the processor when raw materials are received for processing.

4.6.3 The formulation of the finished feed shall meet the regulatory and standard requirements as well as satisfy the animal production objectives of the customer.

4.6.4 Feed and feed ingredients manufacturers and other relevant parts of industry should practice self-regulation/ auto-control to secure compliance with required standards for production, storage and transport.

4.6.5 Inspection and control procedures should be used to verify that feed and feed ingredients meet requirements in order to protect consumers against food-borne hazards.

4.6.6 Inspection systems should be designed and operated on the basis of objective risk assessment appropriate to the circumstances. Preferably the risk assessment methodology employed should be consistent with internationally accepted approaches. Risk assessment should be based on current available scientific evidence.

4.6.7 Monitoring of feed and feed ingredients, whether by industry or official inspection bodies, shall include inspection and sampling and analysis to detect unacceptable levels of undesirable substances.

4.6.8 Sampling and analysis shall be done in accordance with relevant standards

4.7 Equipment performance and maintenance

4.7.1 All scales and metering devices used in the manufacture of feed and feed ingredients should be appropriate for the range of weights and volumes to be measured, and be tested regularly for accuracy.

4.7.2 All mixers used in the manufacture of feed and feed ingredients should be appropriate for the range of weights or volumes being mixed and be capable of manufacturing suitable homogeneous mixtures and homogeneous dilutions, and be tested regularly to verify their performance.

4.7.3 All other equipment used in the manufacture of feed and feed ingredients shall be appropriate for the range of weights or volumes being processed, and be monitored regularly.

4.7.4 A calibration plan shall be established to specify the following:

- a) required calibration accuracy;
- b) frequency of calibration; and
- c) calibration reference standards.

4.7.5 Records shall be kept on calibration and all equipment shall be uniquely identifiable and traceable to calibration records.

4.8 Sanitation and pest control

4.8.1 Feed and feed ingredients, processing plants, storage facilities and their immediate surroundings shall be kept clean and effective pest control programmes shall be implemented.

4.8.2 Containers and equipment used for manufacturing, processing, transport, storage, conveying, handling and weighing shall be kept clean. Cleaning programmes shall be effective and minimise residues of detergents and disinfectants.

4.8.3 Machinery coming into contact with dry feed or feed ingredients shall be dried following any wet cleaning process.

4.8.4 The equipment shall be cleaned between batches to prevent cross contamination (contamination of another feed) in cases where certain species may be poisoned by some ingredients used in feeds for different species of animals

4.8.5 Special precautions should be taken when cleaning machinery used for moist and semi-moist feed and feed ingredients to avoid fungal and bacterial growth.

4.9 Personnel training

All personnel involved in the manufacture, storage and handling of feed and feed ingredients shall be adequately trained and aware of their role and responsibility in protecting food safety. There shall be an effective training programme.

5 On-farm production and use of feed and feed ingredients

5.1 General

This clause provides guidance on the cultivation, manufacture, management and use of feed and feed ingredients on farms and in aquaculture. This clause should be used in conjunction with the applicable requirements of clause 4 of this standard. To help ensure the safety of food used for human consumption, good agricultural practices should be applied during all stages of on-farm production of pastures, cereal grain and forage crops used as feed or feed ingredients for food producing animals. For aquaculture the same principles should apply, where applicable. Three types of contamination represent hazards at most stages of on-farm production of feed and feed ingredients, namely:

- a) biological, such as bacteria, fungi and other microbial pathogens;
- b) chemical, such as residues of medication, pesticides, fertilizer or other agricultural substances; and
- c) physical, such as broken needles, machinery and other foreign material.

5.2 Agricultural production of feed

5.2.1 General

Adherence to good agricultural practices is encouraged in the production of natural, improved and cultivated pastures and in the production of forage and cereal grain crops used as feed or feed ingredients for food producing animals. Following good agricultural practice standards minimize the risk of biological, chemical and physical contaminants entering the food chain. If crop residuals and stubbles are grazed after harvest, or otherwise enter the food chain, they should also be considered as livestock feed. Most livestock consume a portion of their bedding. Crops that produce bedding material or bedding materials such as straw or wood shavings shall also be managed in the same manner as animal feed ingredients. Good pasture management practices, such as rotational grazing and dispersion of manure droppings, should be used to reduce cross contamination between groups of animals.

5.2.2 Site selection

Land used for production of animal feed and feed ingredients should not be located in close proximity to industrial operations where industrial pollutants from air, ground water or runoff from adjacent land would be expected to result in the production of foods of animal origin that may present food safety risk. Contaminants present in runoff from adjacent land and irrigation water shall be below levels that present a food safety risk.

5.2.3 Fertilizers

5.2.3.1 Where manure fertilization of crops or pastures is practised, an appropriate handling and storage system shall be in place and maintained to minimize environmental contamination, which could negatively impact on the safety of foods of animal origin. There should be adequate time between applying the manure and grazing or forage harvesting (silage and hay making) to allow the manure to decompose and to minimize contamination.

5.2.3.2 Manure, compost and other plant nutrients shall be properly used and applied to minimize biological, chemical and physical contamination of foods of animal origin which could adversely affect food safety.

5.2.3.3 Chemical fertilizers shall be handled, stored and applied in a manner such that they do not have a negative impact on the safety of foods of animal origin.

5.2.4 Pesticides and other agricultural chemicals

5.2.4.1 Pesticides and other agricultural chemicals shall be obtained from safe sources. Any chemical used shall comply with relevant standard.

5.2.4.2 Pesticides shall be stored according to the manufacturer's instructions and used in accordance with good agricultural practice in the use of pesticides. It is important that farmers carefully follow the manufacturer's instructions for use for all agricultural chemicals.

5.2.4.3 Pesticides and other agricultural chemicals should be disposed responsibly in a manner that do not lead to contamination of any body of water, soil, feed or feed ingredients that may lead to the contamination of foods of animal origin which could adversely affect food safety.

5.3 Manufacturing of feed on-farm

5.3.1 Feed ingredients

On-farm feed manufacturers should follow the applicable guidelines established in 4.2 of this standard when sourcing feed ingredients off the farm. Feed ingredients produced on the farm shall meet the requirements established for feed ingredients sourced off the farm. For example, seed treated for planting shall not be fed.

5.3.2 Mixing

On-farm feed manufacturers should follow the applicable guidelines established in clause 3 of this standard; particular attention shall be given to 4.3.2. In particular, feed should be mixed in a manner that minimize the potential for cross-contamination between feed or feed ingredients that may have an effect on the safety or withholding period for the feed or feed ingredients.

5.3.3 Monitoring records

5.3.3.1 Appropriate records of feed manufacturing procedures followed by on-farm feed manufacturers shall be maintained to assist in the investigations of possible feed-related contamination or disease events.

5.3.3.2 Records shall be kept of incoming feed ingredients; the record keeping shall follow records set out in 4.5 of this standard.

5.4 Good animal feeding practice

Good animal feeding practices include those practices that help to ensure the proper use of feed and feed ingredients on-farm while minimising biological, chemical and physical risks to consumers of foods of animal origin.

5.4.1 Water

Water for drinking or for aquaculture should be of appropriate quality for the animals being produced. Where there is reason to be concerned about contamination of animals from the water, measures shall be taken to evaluate and minimise the hazards.

5.4.2 Pasture grazing

5.4.2.1 The grazing of pastures and crop lands should be managed in a way that minimises the avoidable contamination of foods of animal origin by biological, chemical and physical food safety hazards.

5.4.2.2 Where appropriate, an adequate period should be observed before allowing livestock to graze on pasture, crops and crop residuals and between grazing rotations to minimise biological cross-contamination from manure.

5.4.2.3 Where agricultural chemicals are used, operators should ensure that the required withholding periods are observed.

5.4.3 Feeding

5.4.3.1 Correct feed shall be fed to the right animal group and the directions for use shall be followed. Contamination shall be minimised during feeding. Information should be available of what is fed to animals and when, to ensure that food safety risks are managed.

5.4.3.2 Animals receiving medicated feed shall be identified and managed appropriately until the correct withholding period (if any) has been reached and records of these procedures shall be maintained. Procedures to ensure that medicated feed are transported to the correct location and are fed to animals that require the medication shall be followed. Feed transport vehicles and feeding equipment used to deliver and distribute medicated feed shall be cleaned after use, if a different medicated feed or non-medicated feed or feed ingredient is to be transported next.

5.5 Stable feeding and lot/intensive feeding units

The animal production unit should be located in an area that does not result in the production of food of animal origin that poses a risk to food safety. Care should be taken to avoid animal access to contaminated land, and to facilities with potential sources of toxicity.

5.5.1 Hygiene

5.5.1.1 The animal production unit should be designed so that it can be adequately cleaned. The animal production unit and feeding equipment shall be thoroughly cleaned regularly to prevent potential hazards to food safety. Chemicals used shall be appropriate for cleaning and sanitising feed manufacturing equipment and shall be used according to instructions. These products shall be properly labelled and stored away from feed manufacturing, feed storage and feeding areas.

5.5.1.2 A pest control system should be put in place to control the access of pests to the animal production unit to minimise potential hazards to food safety.

5.5.1.3 Operators and employees working in the animal production unit shall observe appropriate hygiene requirements to minimise potential hazards to food safety from feed.

5.6 Aquaculture

5.6.1 Aquaculture includes a wide range of species of finfish, molluscs, crustaceans, cephalopods, etc. The complexity of aquaculture is reflected in the wide range of culturing methods ranging from huge cages in open seas to culturing in small freshwater ponds. The diversity is further reflected by the range of stages from larvae to full grown size, requiring different feed as well as different culture methods. Nutritional approaches range from feeding only naturally occurring nutrients in the water to the use of sophisticated equipment and scientifically formulated compound feed.

5.6.2 To ensure food safety, necessary precautions shall be taken regarding culturing methods, culturing sites, technologies, materials and feed used to minimize contamination in order to reduce food hazards.

5.6.3 Requirements for animal feed ingredients retailers/distributors

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Bibliography

[1] RS 98: 2015, Animal feed production, processing, storage and distribution—Code of practice, Second edition

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