RWANDA STANDARD

DRS 592

First edition

2025-mm-dd

Processing and handling of fish feeds — Code of practice

ICS 65.120

Reference number

DRS 592: 2025

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

Rwanda Standards Board

P.O Box 7099 Kigali-Rwanda

KK 15 Rd, 49

Tel. +250 788303492

Toll Free: 3250

E-mail: info@rsb.gov.rw

Website: www.rsb.gov.rw

ePortal: www.portal.rsb.gov.rw

Contents

Page

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 gazettement as Rwanda Standards.

DRS 592 was prepared by Technical Committee RSB/TC 8, *Animal feeding stuffs.*

Committee membership

The following organizations were represented on the Technical Committee on Animal feeding stuffs (RSB/TC 8) in the preparation of this standard.

Rwanda Best

Rwanda Agriculture and Animal Resources Development Board (RAB)

Prodev Rwanda Ltd

Gatsibo Rice Company Ltd

INNOPRO Ltd

Rwanda Inspectorate, Competition and Consumer Protection Authority (RICA)

Mukunguri Rice Promotion and Investment Company Ltd

Vital Agro Industries Ltd

MINIMEX

Rwanda Standards Board (RSB) – Secretariat

Processing and handling of fish feeds — Code of practice

1 Scope

This Draft Rwanda Standard specifies requirements for the processing, storage, transport and distribution of fish feeds, feed ingredients and the use of all materials destined for fish feed and feed ingredients at all levels whether produced industrially or on farm.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

RS EAS 12, *Potable water — Specification*

CXC 38, *Recommended International Code of Practice for the Control of the Use of Veterinary Drugs*

CXC 61, *Code of Practice to Minimize and Contain Antimicrobial Resistance*

RS EAS 38, *Labelling of pre-packaged foods — Specification*

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

record

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

3.4

control measure

action or activity that is essential to prevent a significant food safety hazard or reduce it to an acceptable level

3.5

finished feed

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

3.6

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

3.7

risk assessment

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

3.8

risk

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

3.9

premixture

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

3.10

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

3.11

feed 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)

3.12

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

3.13

fish feed

any single or multiple products, whether processed, semi-processed or raw, which is intended to be fed to fish

3.14

feed safety

concept that feed (3.13) will not cause harm to animals and/or lead to contamination of human food products

3.15

contamination

introduction or occurrence of a contaminant in feed (3.13) or the production environment

3.16

contaminant

any substance not intentionally added to feed (3.13), which is present as a result of the production, manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such feed, or as a result of environmental contamination

3.17

rework

nonconforming and/or returned products suitable for reprocessing such as Pellet fines, screenings, quality defects and customer returns

3.18

cleaning

the removal of soil, food residues, dirt, grease, or other objectionable matter

3.19

disinfection

reduction by means of biological or chemical agents and/or physical methods in the number of viable microorganisms on surfaces, in water or air to a level that does not compromise food safety and/or suitability

3.20

sanitation

all actions dealing with cleaning or maintaining hygienic conditions in an establishment, ranging from cleaning and/or sanitizing of specific equipment to periodic cleaning activities throughout the establishment (including building, structural, and grounds cleaning activities)

3.21

Certificate of analysis (COA)

document provided by the supplier which indicates results of specific tests or analysis, including test methodology, performed on a defined lot of the supplier's product.

4 Requirements

4.1 Processing of fish feeds and feed ingredients

4.1.1 General

4.1.1.1 The processing, storage, transport and distribution of safe and suitable fish 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.

4.1.1.2 Fish feed and feed ingredients should be obtained and maintained in a stable condition so as to protect feed and feed ingredients from contamination by pests, or by chemical, physical or microbiological contaminants or other objectionable substances during production, handling, storage and transport.

4.1.1.3 Fish 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.

4.1.1.4 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, recognizing that total elimination of hazards is often not possible.

4.1.2 Premises layout and workspace

4.1.2.1 Buildings used to process fish feed and feed ingredients shall be constructed in a manner that permits ease of operation, maintenance and cleaning, and minimizes feed contamination.

4.1.2.2 Process flow within the manufacturing facility should also be designed to minimize feed contamination

4.1.2.3 The premise layout shall be designed so that the movement of materials, products and people do not contribute to contamination. Testing areas and laboratories shall be designed, located and operated to prevent contamination of materials and production areas of the establishment.

4.1.2.4 Potential sources of contamination from the local environment shall be considered. Measures taken to protect against potential sources of contamination shall be documented and reviewed for effectiveness.

4.1.2.5 Walls, floors and floor-wall junctions shall be cleanable and resistant to the cleaning system applied. Standing water shall be prevented and/or removed.

4.1.2.6 This includes external openings for the transfer of materials within the establishment.

4.1.2.7 Roofs in manufacturing and storage locations shall be self-draining and shall not leak.

4.1.2.8 Ceilings and overhead fixtures shall be designed and maintained to prevent damage and build-up of dirt and condensation

4.1.3 Utilities

4.1.3.1 Water

4.1.3.1.1 Water used in fish feed manufacture shall meet hygienic requirements in 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.

4.1.3.1.2 Facilities for storage and distribution of water shall be designed to meet specified water quality requirements.

4.1.3.1.3 Water, as well as ice and steam made from water, should be fit for its intended purpose. They should not cause contamination of feed.

4.1.3.1.4 Water that is not fit for use in contact with feed (e.g. some water used for fire control and for steam that will not directly contact food) should have a separate system that does not connect with or allow reflux into the system for water that will contact fish feed.

4.1.3.2 Ventilation

Adequate means of natural or mechanical ventilation should be provided in production and storage areas, in particular to:

a) minimize air-borne contamination of fish feed, for example, from aerosols and condensation droplets;

b) help control ambient temperatures;

c) control odours which might affect the suitability of feed; and

d) control humidity to ensure the safety and suitability of feed (e.g. to prevent an increase in moisture of dried foods that would allow growth of microorganisms and production of toxic metabolites).

4.1.3.3 Air and gases

4.1.3.3.1 Air and Gases that come into direct contact with fish feed and feed ingredients including those used for transferring, blowing or drying, shall not compromise feed safety.

4.1.3.3.2 Gases from combustion intended for direct contact with fish feed and feed ingredients shall not compromise feed safety. The fuel used as the combustion source shall be fit for purpose.

4.1.3.4 Lighting

4.1.3.4.1 Lighting shall allow personnel to carry out assigned feed safety responsibilities.

4.1.3.4.2 Light fixtures shall be designed in such a way to prevent contamination in the case of breakages.

4.1.4 Equipment suitability

4.1.4.1 Equipment shall be designed and located to permit access for operation, cleaning and maintenance. All equipment used for producing or processing fish feed and feed ingredients shall be fit for the purpose for which it is used.

4.1.4.2 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.

4.1.4.3 Equipment and containers coming into contact with feed should be designed, constructed and located to ensure that they can be adequately cleaned (other than containers which are single-use only); disinfected (where necessary); and maintained or discarded as necessary to avoid the contamination of feed, according to hygienic design principles.

4.1.4.4 Product contact surfaces and tools shall be constructed from suitable materials and be able to resist repeated cleaning and where applicable sanitizing.

4.1.4.5 Equipment and containers should be made of materials that are non-toxic according to intended use.

4.1.5 Equipment performance and maintenance

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

4.1.5.2 All mixers used in the manufacture of fish 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.

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

4.1.5.4 Equipment should be durable and movable or capable of being disassembled to allow for maintenance, cleaning, disinfection and to facilitate inspection for pests.

4.1.5.5 Equipment used to cook, heat, cool, store or freeze feed should be designed to achieve the required feed temperatures as rapidly as necessary. Such equipment should also be designed to allow temperatures to be monitored, where necessary, and controlled. Monitoring equipment shall be calibrated to ensure that the temperatures of feed processes are accurate.

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

a) required calibration accuracy;

b) frequency of calibration; and

c) calibration reference standards.

4.1.5.7 Calibration records shall be kept and all equipment shall be uniquely identifiable and traceable to calibration records.

4.1.6 Cleaning and Sanitation

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

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

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

4.1.6.4 The equipment shall be cleaned to prevent contamination in cases where certain species may be contaminated by some ingredients used in feeds for different species of animals.

4.1.6.5 These products shall be properly labelled and stored away from feed manufacturing, feed storage and feeding areas

4.1.7 Wastes disposal

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

4.1.7.2 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 applicable standard/regulation requirements.

4.1.7.3 Systems shall be in place such that waste is identified, collected, removed and disposed of to prevent contamination. Waste shall be managed in a manner that prevents the attraction and harbouring of pests.

4.1.7.4 Containers for waste shall be

a) clearly identified for their intended use,

b) located in a designated area, and

c) designed to be effectively emptied.

4.1.7.5 Provision shall be made for the segregation, storage and removal of waste. Removal frequencies from production areas shall be managed to avoid accumulations. Waste accumulation shall occur only in designated areas.

4.1.7.6 Materials designated as waste shall be disposed in a manner that prevents unauthorized use.

4.1.8 Pest control

4.1.8.1 Hygiene, cleaning, incoming materials inspection and monitoring procedures shall be designed and implemented to avoid creating an environment conducive to pest activity.

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

4.1.8.3 Storage and material handling practices shall avoid the availability of materials and water to pests. Spilled materials and waste shall be controlled to prevent availability to pests.

4.1.8.4 Material found to be infested shall be handled in such a way as to prevent contamination of other materials, products or the establishment.

4.1.8.5 Feed and animal food production and storage buildings shall be maintained in a manner to prevent pest access. Potential pest harborage shall be removed.

4.1.8.6 Pest control programmes shall identify target pests, address preventive plans, control procedures and be reviewed for effectiveness.

4.1.8.7 The organization shall have a nominated person to manage pest control programme and/or deal with qualified contractors at the establishment.

4.2 Incoming materials

4.2.1 General requirements

4.2.1.1 Fish feed materials shall be obtained from sources, preferably, with a supplier warranty and the supplier should have undergone evaluation and recognized by the purchaser before 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 Feed additives shall be obtained from manufacturers who guarantee the concentration and purity of ingredients and provide instructions for correct use and expiry dates. A competent authority shall approve the supplier.

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

c) monitoring programme for undesirable substances;

d) list of approved geographic origins and sources;

e) types of feeding stuffs in which their use is approved; and

f) 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 fish 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 CXC 38 and CXC 61.

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

4.2.2.6 Incoming fish feeds that have been rejected shall be clearly identified and segregated from other materials in a manner that precludes their unauthorized use. Disposal of rejected incoming fish feeds should be

undertaken only after consultation with the manufacturer and/or supplier and should be done in accordance with the standards and regulations in place.

4.2.2.7 Incoming fish 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 Quality assurance, inspection and control procedures

4.3.1 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.

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

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

4.3.4 Fish feed and feed ingredients manufacturers and other relevant parts of the feed industry shall practice self-regulation/auto-control to assess and ensure compliance with required standards for production, storage and transport.

4.3.5 Inspection and control procedures should be used to verify that fish feed and feed ingredients meet requirements in order to ensure feed safety.

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

4.3.7 Visual examination for packages damaged during transportation) for appropriate action before processing.

4.3.8 Laboratory tests should be conducted to check the safety and suitability of Fish feed and feed ingredients. Certificates of analysis should be provided by the supplier, the purchaser, or both.

4.3.9 No fish feed and feed ingredients should be accepted by an establishment if it is known to contain chemical, physical, or microbiological contaminants that would not be reduced to an acceptable level by controls applied during sorting and/or processing where appropriate.

4.3.10 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.

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

4.4 Product traceability and records keeping

4.4.1 General requirements

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

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

4.4.2 Incoming feed

4.4.2.1 Records shall be kept but not limited to 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) identification of storage allocation

4.4.2.2 For purchased premixtures, Additional records on Manufacturers' batch number(s) and number of containers for each batch shall be kept.

4.4.2.3 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

4.4.3 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

e) actual formula; and

f) identification of storage allocation.

4.4.4 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.

4.4.5 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 fish 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 fish 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 fish feed or feed ingredients do not pose any danger to consumers' health.

4.5 Storage and transport

4.5.1 Storage

4.5.1.1 Finished fish feeds shall be stored separately from unprocessed ingredients.

4.5.1.2 Storage places shall be designed to be easy to clean and minimize the accumulation of spoiled ingredients or other contaminants.

4.5.1.3 The finished fish feed shall be kept in good hygienic storage places and shall only be accessible to authorized personnel.

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

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

4.5.1.6 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.

4.5.1.7 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.

4.5.1.8 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 relevant applicable standard/regulation requirements.

4.5.2 Transport and delivery

4.5.2.1 The transport of incoming and finished feed shall be made by using only clean vehicles.

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

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

4.5.2.4 The fish 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.

4.5.2.5 Before the fish feed is loaded, the vehicle should be clean and dry. Records should be kept and the vehicle inspection form should be filled

4.5.2.6 Incoming and finished fish 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, sanitized and dried.

4.5.2.7 Records and other information should be maintained to include the identity and distribution of fish feed and feed ingredients; those considered to pose a threat to consumers' health can be rapidly removed from the market and that a farm exposed to the relevant feed can be identified.

4.6 Management of returns

4.6.1 The processing of finished fish feed shall be organized, both on an internal and external level, to limit possible returns to a minimum.

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

4.6.3 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.

4.6.4 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.

4.6.5 Procedural rules shall lay down in which fish 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.

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

5 Personnel

5.1 Personnel hygiene

5.1.1 General

5.1.1.1 Requirements for personal hygiene and behaviour shall be clearly defined and documented. All staff, visitors, and contractors shall adhere to these documented requirements.

5.1.1.2 Facilities and toilets shall be available and located in a clearly designated area and shall be cleaned and maintained to prevent contamination and ensure personal hygiene.

5.1.1.3 All human food shall be stored, prepared and consumed in designated eating areas.

5.1.1.4 All Personnel who work in, or enter into, areas where fish feed is handled shall wear personal protective equipment that does not pose a feed safety risk.

5.1.1.5 Personal cleanliness; Personnel in feed and storage areas shall maintain personal hygiene to prevent contamination. Hand washing shall be conducted before starting any working shift, after using the toilet and immediately after handling potential contaminants that could lead to a feed safety risk.

5.2 Personal behaviour

A documented policy shall describe the required personal behaviours. The policy shall, as a minimum, cover the following:

a) permissibility of smoking, eating and chewing in designated areas only

b) control measures to avoid hazards presented by jewellery and other items carried by a person;

c) permissibility of personal items, such as smoking materials and medicines, in designated areas only;

d) maintenance of personal lockers so that they are kept free from rubbish and in an acceptable state;

e) spitting shall be prohibited in fish feed processing and storage areas

5.3 Personnel Competence

5.3.1 All personnel involved in the processing, storing and handling of fish feed and feed ingredients shall be adequately trained and aware of their role and responsibility in protecting feed safety. There shall be an effective training programme.

5.3.2 A trained employee shall be designated as the person responsible for the processing activities and all plant personnel should be adequately trained and shall work following Good Manufacturing Practices (GMP).

6 Packaging

Processed fish feed shall be packaged in food grade packaging material that shall protect and safeguard their integrity. Fish feeds for sale shall be packaged in suitable containers that are of sufficient strength, and sufficiently sealed to withstand a reasonable handling without tearing, bursting or falling open. The containers shall be clean and not previously used.

7 Labelling

Labelling shall be done in accordance with RS EAS 38

Bibliography

[1] *RS 98:2021 Animal feed production, processing, storage, and distribution - Code of practice*

Price based on 15 pages