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Production, handling and transportation of eggs — Code of practice

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Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of WDB, 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 550 was prepared by Technical Committee RSB/TC 005, *Meat and meat products*.

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

1) IS 7049: Code for handling, processing, quality evaluation and storage of poultry

2) RS 289 2021 Handling, processing and storage of poultry

3) Code of good chicken husbandry for poultry – Broiler and Layer

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

Committee membership

The following organizations were represented on the Technical Committee on Meat and meat products. (RSB/TC 005) in the preparation of this standard.

Rwanda Standards Board (RSB) – Secretariat

Production, handling and transportation of eggs — Code of practice

1 Scope

This Working Draft applies to the primary production, sorting, grading, storing, and distribution of table eggs produced by domesticated chicken intended for human consumption.

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.

CAC/RCP 1-1969, *General principles of food hygiene*

DRS 551-1: 2022 *Code of good animal husbandry practices for Poultry-Part 1: Broiler and layers*

3 Terms and definitions

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

3.1

backyard

any farm or household raising at least one head of chicken or bird and does not qualify as a commercial farm

3.2

Breeding flock

Group of chicken raised for the purpose of production of the laying flock

3.3

broken leaker egg

egg showing breaks of both the shell and the membrane, resulting in the exposure of its content

3.4

candling

examining the interior condition of an egg and the integrity of the shell by rotating or causing the egg to rotate in front or over a light source that illuminates the content of the egg

3.5

Farm owner/operator

Physical person or Legal entity who is responsible for the management and general operation of the farm

3.5

Commercial farm

any farm which, for poultry chicken, satisfies at least one of the following conditions: a) 500 layers or 1,000 broilers, or b) 100 layers and 100 broilers if raised in combination

3.6

Cracked egg

egg with a damaged shell, but with an intact membrane

3.7

dirty egg

egg with foreign matter on the shell surface, including egg yolk, manure or soil

3.8

egg laying establishment

facilities and the surrounding area where primary production of table eggs takes place

3.9

laying flock

Group of chicken raised for the purpose of production of table eggs.

3.10

microbiocidal treatment

control measure that practically eliminates the number of microorganisms, including pathogenic microorganisms present in a food or reduces them to a level at which they do not constitute a health hazard

3.11

pasteurisation

microbiocidal control measure where table eggs or egg products are subjected to a process, using heat to reduce the load of pathogenic microorganisms to an acceptable level to ensure safety

3.12

shelf life

period during which the table egg maintains its safety and suitability for human consumption

3.12

table egg

egg destined to be sold to the end consumer in its shell and without having received any treatment significantly modifying its properties

4 General principles

4.1 From primary production to the point or consumption, table eggs should be subject to control measures intended to achieve the appropriate level of public health protection.

4.2 Whenever appropriate, hygienic practices for table eggs should be implemented within 96 the context of HACCP systems as described in the Annex to the General Principles of 97 Food Hygiene (CAC/RCP 1-1969).

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5 Primary production

The farm should comply with the provisions stated in CD xxx: 2022 Code of good animal husbandry practices for Poultry-Part 1: Broiler and layers

……..CD xxx ……..

6 Environmental hygiene

If contaminants are present at levels which may result in the table egg being harmful to human health, and corrective or preventive actions have not been taken to minimize identified hazards, the sites should not be used until such actions have been applied.

6.1 Flock management and chicken health

6.2.1 Where birds/flocks have been treated with veterinary drugs that can be transferred to eggs, their eggs should be discarded until the withholding period for the particular veterinary drug has been achieved. Established maximum residue levels (MRLs), including those established by Codex, for residues of veterinary drugs in table eggs, may be used to verify such measures.

6.2.2 Appropriate testing protocols should be used to verify the effectiveness of on-farm controls of veterinary drug use and in meeting established MRLs.

6.2.3 where Salmonella Enteritidis has been associated with poultry or table eggs, Monitoring for SE through faecal testing and the use of a vaccination protocol may reduce the risk of human illness. If a vaccine is used, it should be approved by the competent authority. Monitoring for SE can also include environmental testing of litter, dust, ventilation fans etc.

6.2.4 Disposing of table eggs from infected flocks still in production that represent a risk to human or flock health, should be done in a safe manner or specifically diverting them to a process that ensures elimination of a hazard.

6.2.5 Where practicable, culling of Salmonella Enteritidis positive flocks should be slaughtered in accordance with country requirements.

6.2 Feeding

Asfeedcanbeasourceofcontamination,heatorothertreatmentoffeedto reduceor eliminatepathogens includingSalmonella should beconsidered.

6.3 Pest control

6.3.1 Any pest control measures should not result in unacceptable levels of residues, such as pesticides, in or on table eggs.

6.3.2 Rat control measures/mechanisms should be used in a way that cannot be accessed by chicken.

6.3.3 Any pest control chemicals should be stored in a manner that will not contaminate the laying environment. Such chemicals should be stored in a safe manner. They should not be stored in wet areas or close to feed stores or be accessible by birds.

6.4 Agricultural and veterinary chemicals

6.4.1 Transport, storage and use of agricultural and veterinary chemicals should be in accordance with the manufacturer's instructions.

6.4.2 Storage and use of agricultural and veterinary chemicals on the egg laying establishment should be evaluated and managed, as they may represent a direct or indirect hazard for the table eggs and flock.

6.4.3 Agricultural and veterinary chemicals residues should not exceed limits established in Codex Alimentarius

6.5 Areas and establishments for egg laying systems

6.5.1 The facilities used to house flocks should be cleaned and disinfected in a way that reduces the risk of transfer of pathogens to the next flock. An "all-in, all-out" step for each poultry house should be followed, where feasible, taking into consideration multi-aged poultry houses. Such a process would give the opportunity to eliminate rodents and insects before the next flock is introduced.

6.5.2 Use of litter should be managed to reduce the risk of introducing or spreading hazards.

6.5.3 Water delivery systems should be protected, maintained and cleaned, as appropriate, to prevent microbial contamination of water.

6.5.4 Drainage systems and systems for storing and removal of manure should be designed, constructed and maintained so as to prevent the likelihood of contaminating the water supply or table eggs.

6.5.5 Accumulations of broken table eggs, manure, or any other objectionable materials should be minimized in order to reduce the likelihood of contact with table eggs and to minimize attracting pests into the establishment.

6.5.6 Cleaning programs should include procedures for routine cleaning while birds are in the poultry house. Full cleaning and disinfection programmes should be applied when poultry houses are empty.

6.5.7 Cleaning procedures for de-populated poultry house should cover cleaning and/or sanitizing nest boxes/cages, poultry houses, disposing of contaminated litter, nesting materials and faeces from diseased birds and, where necessary, safe disposal of table eggs from infected flocks and dead or diseased birds.

6.6 Personnel hygiene and health status

6.6.1 Personnel hygiene

Personnel should be adequately instructed and/or trained to handle table eggs and domesticated birds to ensure the use of good hygienic practices that will minimize the risk of egg or flock contamination.

6.6.2 Healthstatus

People known, or suspected, to be suffering from, or to be a carrier of a disease or illness likely to be transmitted to birds or through table eggs should not be allowed to enter any bird facility or egg collection or handling area, if there is a likelihood of their contaminating the birds or the table eggs. Any person so affected should immediately report illness or symptoms of illness to the management.

6.6.3 Personal cleanliness

6.6.3.1 Personnelwhohavedirectcontactwithtableeggsshouldmaintainahigh degreeofpersonalcleanlinessand,whereappropriate,wearsuitable protective clothing, footwear and head covering that is not likely to introduce contamination into egg laying areas.

6.6.3.2 Personnel should always wash their hands with hand-cleansing agents: before and after handling of table eggs; each time they return to handling areas after a break; and immediately after using the toilet.

6.6.4 Sanitary facilities

6.6.4.1 Facilities should be available to ensure that an appropriate degree of personal hygiene can be maintained.

6.6.4.2 Facilities should:

a) belocatedinclose proximitytowherevertableeggsordomesticated

b) birdsarehandled;

c) beconstructedtofacilitatehygienicremovalofwastesandavoid contamination of facilities, equipment, raw materials and the immediateenvironment;

d) haveadequatemeansforhygienicallywashinganddryinghandsand disinfectingfootwear;and

e) bemaintainedundersanitaryconditionsandingoodrepairatall times.

6.7 Documentationandrecordkeeping

6.7.1 Recordsshouldbekept,asnecessaryandwherepracticable,toenhancethe abilitytoverifytheeffectivenessofthecontrolsystems.Documentationof proceduresca nenhancethecredibilityandeffectivenessofthefoodsafety control system.

6.7.2 Withrespecttofoodsafety,recordsshouldbekepton:

a) preventionand control ofavian diseases with an impact on public health;

b) identificationand movementofbirds andtableeggs;

c) useofagriculturaland pest controlchemicals;

d) natureandsourceoffeed,feed ingredientsandwater;

e) useofveterinarydrugs/medicines;

f) resultsoftestingwhere testingis performed;

g) healthstatusofpersonnel;

h) cleaninganddisinfection;and

i) traceability/producttracingandrecall.

7 Collection, handling, storage and transport of table eggs

Tableeggs should be collected, handled, stored and transported in amanner that minimizescontaminationand/ordamagetotheeggoreggshell,andwithappropriate attentiontotime-temperatureconsiderations,particularlytemperaturefluctuations.

7.1 Establishment:Designandfacilities

The following guidelines are supplemental to Codex Section 4 and section 6 of the General Principles of Food Hygiene (CAC/RCP 1- 1969) for establishments that produce table eggs. See annex A and B.

Where practicable, separate areas should be allocated for storage and processing of egg products.

7.2 Eggcollectionequipment

7.2.1 Collectionequipmentshouldbemadeofmaterialsthatarenon-toxicandbe designed,constructed,installed,maintainedandusedinamannerto facilitategoodhygienicpractices.

7.2.2 Eggcollectingequipmentandcontainersshouldbecleanedanddisinfected regularly,or if necessary, replaced, and with sufficient frequency to minimizeorpreventcontaminationoftableeggs.

7.2.3 Eggcollecting equipment shouldbe maintained in properworking condition andthisshouldbeperiodicallyverified.

7.3 Packaging and storage

7.3.1 Eggpackagingandpackagingequipmentshouldbedesigned,constructed, maintainedandusedinamannerthatwillminimizedamagetotheeggshell andavoid the introduction ofcontaminantsin or on table eggs.

7.3.2 Whenevertableeggsarestored,itshouldbeinamannerthatminimizes damagetothe eggshellandavoidstheintroductionofcontaminants,or growthofexistingmicroorganismsinorontableeggs,givingconsideration totimeand temperature conditions.

7.4 Control of operation

7.4.1 Control of food hazards

7.4.1.1 Table eggs should be safe and suitable as defined in ……

7.4.1.2 All efforts should be made to avoid production of dirty table eggs.

7.4.1.3 Control measures based on risk should be in place to ensure that process and product specifications are met, and the hazards in or on table eggs are effectively identified and controlled.

7.4.1.4 Information that may be useful for establishing specifications could include:

a) flock health status (including pathogens status);

b) pathogen load in/on table eggs;

c) agricultural and Veterinary chemical status;

d) age of table eggs;

e) handling methods; and

f) microbiocidal treatments

7.4.2 Key aspects of hygiene control systems

7.4.2 Temperature and time issues

7.4.2.1 From receipt of table eggs, through handling, sorting and grading, washing, drying, treatment, packaging, storage and distribution to point of consumption, consideration should be given to time and temperature and humidity conditions for table eggs such that the growth of pathogenic microorganisms will be minimized and the safety and suitability of the table eggs will not be adversely affected.

7.4.2.2 Temperature fluctuations should be minimized as much as possible.

8 Specificprocesssteps

8.1 Handlingof table eggs

8.1.1 Tableeggsshouldbehandledduringallstagesofcleaning,sorting,grading,packing, storinganddistributioninamannerthatavoidsdamage,minimizesmoistureonthe shellsurfaceand preventscontamination.

8.1.2 Tableeggsintendedforthetableeggsmarketshouldbevisiblycleanpriortograding andpacking.

8.2 Sorting, grading and packing

8.2.1 Cracked eggs should be segregated from those intended for table egg market.

8.2.2 Dirty eggs may be cleaned and if appropriately cleaned, may be marketed as table egg or sent for further processing.

8.2.3 Cracked and other unsuitable table eggs should be identified in such a way that they cannot be used for human consumption, for example, by appropriate labelling or the use of a de-characterising agent (an additive that makes it clearly visible that the eggs should not be processed into human food, e.g. a denaturing agent).

8.3 Cleaning

8.3.1 A cleaning process may be used to remove foreign matter from the shell surface, but this should be carried out under carefully controlled conditions so as to minimize damage to the shell surface.

8.3.2 Cleaning can be used to reduce the bacterial load on the outside of the shell.

8.3.3 If dry cleaning is undertaken, the methods used should minimize damage to the protective cuticle

8.4 Washing, disinfection and drying

8.4.1 Washing should be carried out under carefully controlled conditions so as to minimize damage to the shell and prevent contamination of the egg contents.

8.4.2 Table eggs should not be soaked prior to or during washing.

8.4.3 Water used for washing should be potable with appropriate water temperature and pH and quality.

8.4.4 If cleaning compounds are used, they should be suitable for use in table eggs and not adversely affect the safety of the egg.

8.4.5 If table eggs are washed, they should be dried to minimize moisture on the surface of the shell that can lead to contamination or growth of mould. Washing should be followed by effective sanitizing of the shell.

8.5 In shell treatment

Where table eggs are treated to eliminate pathogens (e.g. in-shell pasteurization) the treatment should not adversely affect the safety or suitability of the egg.

8.6 Storage

8.6.1 Storage temperatures, times and humidity should not have a detrimental effect on the safety and suitability of table eggs. The time and temperature conditions and humidity for egg storage at the farm should be established taking into account the hygienic condition of the table eggs, the hazards that are reasonably likely to occur, the end use of the table eggs, and the intended duration of storage.

8.6.2 Table eggs should be stored and transported under conditions that will not adversely affect the safety and suitability of the egg.

8.6.3 Eggs more than one week from their production date shall be stored at ambient temperatures not exceeding 24 degrees Celsius.

8.6.4 Storage conditions should minimize moisture on the shell surface.

8.6.5 Temperature fluctuations during storage and distribution should be minimized.

9 Shelf life for table eggs

9.1 The growth of pathogenic and/or spoilage microorganisms to unacceptable levels may affect the shelf life of table eggs.

9.2 The shelf life of table eggs is influenced by number of factors, such as:

a) storage conditions including temperature fluctuation and humidity

b) methods and treatments

c) type of packaging

9.3 Shelf life of table eggs should be established by the grader/packer, consistent with requirements of relevant authorities, based on:

a) information from the producer on the time since lay, time and temperature in storage and transport;

b) type of packaging;

c) kelihood of microbial growth, due to reasonably anticipated temperature abuse

d) during storage, distribution, retail, sale and handling by the consumer under reasonably foreseeable conditions of distribution, storage and use.

10 Transportation

10.1 Transport vehicle should be accredited/registered by the competent authority.

10.2 Table eggs should be transported in a manner that will minimize breakage, damage and contamination

10.3 Mobile containers and tankers should be cleaned and disinfected prior to being refilled.

10.4 Egg haulers (driver or individual in charge of transport to and from packaging facility) should use vehicles suitable for transporting table eggs, which permit easy and thorough cleaning.

10.5 Table eggs should be transferred between establishments promptly. Table eggs should be maintained at an appropriate temperature, including avoiding fluctuations in temperatures that will result in condensation of water on the shell surface.

11 Consumer awareness

Where appropriate, advice should be made available to consumers on the safe handling, use, preparation and consumption of table eggs.

12 Training

12.1 Persons engaged in egg hygiene activities should be trained and/or instructed to a required level of training, knowledge, skills and ability.

12.2 Training programs should:

a) provide personnel with the training, knowledge, skills and ability to carry out specified egg hygiene tasks;

b) provide practical training to the extent required;

c) ensure that personnel involved in supervisory roles have appropriate skills;

d) recognize and build on professional qualifications; and

e) provide for the continuing education of persons involved with egg hygiene.

Annex A
(normative)

Establishment: Design and facilities

A.1 Location

A.1.1 Establishments

Potential sources of contamination need to be considered when deciding where to locate food establishments, as well as the effectiveness of any reasonable measures that might be taken to protect food. Establishments should not be located anywhere where, after considering such protective measures, it is clear that there will remain a threat to food safety or suitability. In particular, establishments should normally be located away from:

a) environmentally polluted areas and industrial activities which pose a serious threat of

b) contaminating food;

c) areas subject to flooding unless sufficient safeguards are provided;

d) areas prone to infestations of pests;

e) areas where wastes, either solid or liquid, cannot be removed effectively.

A.1.2 Equipment

Equipment should be located so that it:

a) permits adequate maintenance and cleaning;

b) functions in accordance with its intended use; and

c) facilities good hygiene practices, including monitoring.

A.2 Premises and rooms

A.2.1 Design and layout

Where appropriate, the internal design and layout of food establishments should permit good food hygiene practices, including protection against cross-contamination between and during operations by foodstuffs.

A.2.2 Internal structures and fittings

Structures within food establishments should be soundly built of durable materials and be easy to maintain clean and where appropriate, able to be disinfected. In particular the following specific conditions should be satisfied where necessary to protect the safety and suitability of food:

a) The surfaces of walls, partitions and floors should be made of impervious materials with no toxic effect in intended use;

b) Walls and partitions should have a smooth surface up to a height appropriate to the operation;

c) Floors should be constructed to allow adequate drainage and cleaning;

d) Ceilings and overhead fixtures should be constructed and finished to minimize the build-up of dirt and condensation, and the shedding of particles.

e) Windows should be easy to clean, be constructed to minimize the build-up of dirt and where necessary, be fitted with removable and cleanable insect-proof screens. Where necessary, window should be fixed;

f) Doors should have smooth, non-absorbent surfaces, and be easy to clean and, where necessary, disinfectant;

g) Working surfaces that come into direct contact with food should be in sound condition, durable and easy to clean, maintain and disinfect. They should be made of smooth, non-absorbent materials, and inert to the food, to detergents and disinfectants under normal operating conditions.

A.2.3 Temporary/mobile premises and vending machines

A.2.3.1 Premises and structures covered include market stalls, mobile sales and street vending vehicles, temporary premises in which food is handled such as tents and marquees.

A.2.3.2 Such premises and structures should be sited, designed and constructed to avoid, as far as reasonably practicable, contaminating food and harbouring pests.

A.2.3.3 In applying these specific conditions and requirements, any food hygiene hazards associated with such facilities should be adequately controlled to ensure the safety and suitability of food.

A.3 Equipment

A.3.1 General

Equipment and containers (other than once-only use containers and packaging) coming into contact with food, should be designed and constructed to ensure that, where necessary, they can be adequately cleaned, disinfected and maintained to avoid the contamination of food. Equipment and containers should be made of materials with no toxic effect in intended use. Where necessary, equipment should be durable and movable or

capable of being dissembled to allow for maintenance, cleaning, disinfection, monitoring and, for example, to facilitate inspection for pests.

A.3.2 Food control and monitoring equipment

In addition to the general requirements in paragraph 4.3.1, equipment used to cook, heat treat, cool, store or freeze food should be designed to achieve the required food temperatures as rapidly as necessary in the interests of food safety and suitability, and maintain them effectively. Such equipment should also be designed to allow temperatures to be monitored and controlled. Where necessary, such equipment should have effective means of controlling and monitoring humidity, air-flow and any other characteristic likely to have a detrimental effect on the safety or suitability of food. These requirements are intended to ensure that:

harmful or undesirable micro-organisms or their toxins are eliminated or reduced to safe levels or their survival and growth are effectively controlled.

where appropriate, critical limits established in HACCP-based plans can be monitored; and temperatures and other conditions necessary to food safety and suitability can be rapidly achieved and maintained.

A.3.3 Containers for waste and inedible substances.

Containers for waste, by-product and inedible or dangerous substances, should be specifically identifiable, suitably constructed and, where appropriate, made of impervious material. Containers used to hold dangerous substances should be identified and, where appropriate, be lockable to prevent malicious or accidental contamination of food.

A.4 Facilities

A.4.1 Water supply

An adequate supply of potable water with appropriate facilities for its storage, distribution and temperature control, should be available whenever necessary to ensure the safety and suitability of food.

Potable water should be as specified in the latest edition of WHO Guidelines for Drinking Water Quality, or water of higher standard. Non-potable water (for use in, for example, fire control, steam production refrigeration and other similar purposes where it would not contaminate food), shall have a separate system. Non-potable water systems shall be identified and shall not connect with, or allow reflux, into, potable water systems.

A.4.2 Drainage and waste disposal

Adequate drainage and waste disposal systems and facilities should be provided. They should be designed and constructed so that the risk of contaminating food or the potable water supply is avoided.

A.4.3 Cleaning

Adequate facilities, suitably designated, should be provided for cleaning food, utensils and equipment. Such facilities should have an adequate supply of hot and cold potable water where appropriate.

A.4.4 Personnel hygiene facilities and toilets

Personnel hygiene facilities should be available to ensure that an appropriate degree of personal hygiene can be maintained and to avoid contaminating food. Where appropriate, facilities should include:

adequate means of hygienically washing and drying hands, including wash basins and a supply of hot and cold (or suitably temperature controlled) water; lavatories of appropriate hygienic design; and adequate changing facilities for personnel.

Such facilities should be suitable located and designated

A.4.5 Temperature control.

Depending on the nature of the food operations undertaken, adequate facilities should be available for heating, cooling, cooking, refrigerating and freezing food, for storing refrigerated or frozen foods, monitoring food temperatures, and when necessary, controlling ambient temperatures to ensure the safety and suitability of food.

A.4.6 Air quality and ventilation

Adequate means of natural or mechanical ventilation should be provided, in particular to: minimize air-borne contamination of food, for example, from aerosols and condensation droplets; control ambient temperatures; control humidity, where necessary, to ensure the safety and suitability of food.

Ventilation systems should be designed and constructed so that air does not flow from contaminated areas to clean areas and, where necessary, they can be adequately maintained and cleaned.

A.4.7 Lighting

Adequate natural or artificial lighting should be provided to enable the undertaking to operate in a hygienic manner. Where necessary, lighting should not be such that the resulting colour is misleading. The intensity should be adequate to the nature of the operation. Lighting fixtures should, where appropriate, be protected to ensure that food is not contaminated by breakages.

A.4.8 Storage

Where necessary, adequate facilities for the storage of food, ingredients and non-food chemicals (e.g. cleaning materials, lubricants, fuels) should be provided.

Where appropriate, food storage facilities should be designed and constructed to:

permit adequate maintenance and cleaning;

avoid pest access and harbourage;

enable food to be effectively protected from contamination during storage; and

where necessary, provide an environment which minimizes the deterioration of food (e.g. by temperature and humidity control).

The type of storage facilities required will depend on the nature of the food. Where necessary, separate, secure storage facilities for cleaning materials and hazardous substances should be provided.

Annex B
(normative)

Establishment: Maintenance and sanitation

B.1 Maintenance and cleaning

B.2 General

Establishment and equipment should be kept in an appropriate state of repair and condition to:

facilitate all sanitation procedures;

function as intended;

prevent contamination of food, e.g. from metal shards, flaking plaster, debris and chemicals.

Cleaning should be removed food residues and dirt which may be a source of contamination. The necessary cleaning methods and materials will depend on the nature of the food business. Disinfection may be necessary after cleaning.

Cleaning can be carried out by the separate or the combined use of physical methods, such as heat, scrubbing, turbulent flow, vacuum cleaning or other methods that avoid the use of water, and chemical methods using detergents, alkalis or acids.

Cleaning procedures will involve, where appropriate:

removing gross debris from surfaces;

applying a detergent solution to loosen soil and bacterial film and hold them in solution or suspension;

rinsing with water which may complies with section 4, to remove loosened soil and residues of detergent;

dry cleaning or other appropriate methods for removing and collecting residues and debris; and

where necessary, disinfection with subsequent rinsing unless the manufacturers' instructions indicate on scientific basis that rinsing is not required.

B.3 Cleaning programs

Cleaning and disinfection programs should ensure that all parts of the establishment are appropriately clean, and should include the cleaning of cleaning equipment.

Cleaning and disinfection programs should be continually and effectively monitored for their suitability and effectiveness and where necessary, documented.

Where appropriate, programs should be drawn up in consultation with relevant specialist expert advisors.

B.4 Pest control systems

B.4.1 General

Pests pose a major threat to the safety and suitability of food. Pest infestations can occur where there are breeding sites and supply of food. Good Hygienic Practices should be employed to avoid creating an environment conducive to pests. Good sanitation, inspection of incoming materials and good monitoring can minimize the likelihood of infestation and thereby limit the need for pesticides.

B.4.2 Preventing access

Building should be kept in good repair and condition to prevent pest access and to eliminate potential breeding sites. Holes, drains and other places where pests are likely to gain access should be kept sealed. Wire mesh screens, for example on open windows, doors and ventilators, will reduce the problem of pest entry. Chickens should, wherever possible, be excluded from the grounds of factories and food processing plants.

B.4.3 Harbourage and infestation

The availability of food and water encourages pest harbourage and infestation. Potential food sources should be stored in pest-proof containers and/or stacked above the ground and away from walls. Areas both inside and outside food premixes should be kept clean. Where appropriate, refuse should be stored in covered, pest-proof containers.

B.4.4 Monitoring and detection

Establishments and surrounding areas should be regularly examined for evidence of infestation.

B.4.5 Eradication

Pest infestations should be dealt with immediately and without adversely affecting food safety or suitability. Treatment with chemical, physical or biological agents should be carried out without posing a threat to the safety or suitability of food.

B.5 Waste management

Suitable provision must be made for the removal and storage of waste. Waste must not be allowed to accumulate in food handling, food storage, and other working areas and the adjoining environment except so far as is unavoidable for the functioning of the business.

Waste stores must be kept appropriately clean.

B.6 Monitoring effectiveness

Sanitation systems should be monitored for effectiveness, periodically verified by means such as audit pre-operational inspections or, where appropriate, microbiological sampling of environment and food contact surfaces and regularly reviewed and adapted to reflect changed circumstances.

Bibliography

[1] CAC/RCP 15 – 1976, Code of Hygienic Practice for Eggs and Egg Products

[2] PNS/BAFS 184:2016, Code of Good Chicken Husbandry Practices for Chickens – Broilers and Layers

[3] PNS/BAFS 168:2015, Code of Hygienic Practice for Meat

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