

CARIBBEAN POULTRY ASSOCIATION
Caribbean Poultry Industry Integrated Improvement Program

CARICOM
COTTAGE POULTRY PROCESSORS CODE OF PRACTICE
MANUFACTURING PRACTICES & PRINCIPLES OF FOOD HYGIENE

FOR THE CONSIDERATION OF THE CARICOM
CHIEF VET OFFICERS/ CHIEF ENVIRONMENTAL HEALTH OFFICERS
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CONTENTS

Section	Page No.
INTRODUCTION	3
BACKGROUND INFORMATION	4-5
DIVISION 1 APPLICATION & INTERPRETATION	6-7
DIVISION 2 ESTABLISHMENT DESIGN & FACILITIES	8-11
DIVISION 3 ESTABLISHMENT HYGIENE REQUIREMENTS	12-13
DIVISION 4 PERSONNEL HYGIENE & HEALTH "	14-15
DIVISION 5 PROCESSING & OPERATIONAL "	16-18
DIVISION 6 GENERAL REQUIREMENTS IN LIVE PRODUCTION HARVESTING, TRANSPORT & STORAGE	19-21
DIVISION 7 GOVERNMENT INSPECTION	22
ANNEX 1 CLEANING & DISINFECTION	23-25
ANNEX 2 SIGNAGE	26
ANNEX 3 PRICING INFORMATION	27
ANNEX 4 GENERAL CUSTOMER INFORMATION	28
ANNEX 5 CUSTOMER HANDLING INFORMATION	29
ANNEX 6 HAND WASHING TECHNIQUES	30
ANNEX 7 WHEN TO WASH HANDS	31
ANNEX 8 SUGGESTED LIST OF BASIC EQUIPMENT	32
ANNEX 9 ADDITIONAL SUGGESTED EQUIPMENT FOR A LARGER COTTAGE PROCESSOR	33
ANNEX 10-15 QUALITY IMPROVEMENT GUIDELINES	34-39

CODE OF PRACTICE

INTRODUCTION

This Code of Practice is intended to provide assistance to cottage poultry processors to achieve consistently higher standards of operations to deliver safe, wholesome poultry products to their customers.

This Code of Practice has been prepared to embody the principles of Good Manufacturing Practices as generally accepted in the poultry processing industry.

The recommendations contained in this Code of Practice will provide guidance to CARICOM Cottage Poultry Processors on manufacturing procedures, HACCP pre-requisites, hygienic food handling techniques and personnel practices.

Cottage processors are expected to meet the basic sanitary and hygiene requirements as set out in this Code of Practice but may not be subjected to each bird or carcass being inspected by the Competent Authority.

This Code of Practice is to be interpreted as being supplementary to all local legislative and regulatory requirements for the food industry and for the processing of meats.

BACKGROUND INFORMATION ON THE CARICOM COTTAGE POULTRY|PROCESSOR SUBSECTOR

The poultry industry in the CARICOM Region consists of operators and operations at three distinct levels:

A. Large Integrators

At one end of the spectrum, there are the large integrators who operate hatcheries, feed mills, contract farms, processing plants and marketing. Some of these may even operate breeder farms and grain terminals. These operations generally handle (raise and/or process) more than one hundred thousand birds per week. Processing operations occur on processing lines.

B. Medium Scale

These may or may not have any levels of integration. They raise and/or process more than five thousand birds and up to fifty thousand birds per week. Processing operations may or may not occur on processing lines.

C. Cottage

These raise and/or process up to five thousand birds per week. Processing operations do not occur on processing lines.

Operators at the **A & B** levels will generally sell their products to the final consumer through a third party who may be in foodservice, wholesale, retail or institutional.

Operators at level **C** will generally sell their products to the final consumer, though there are notable instances where this may not be so as in the case of cottage farmers and some cottage processors in Jamaica who sell their products to roadside jerk vendors in food service.

Studies by the Caribbean Poultry Association up to FY2003 have shown the following in the CARICOM Region:

- Of the poultry product mix sold, 23% is fresh-killed, 51 % is frozen and 26% is chilled
- 25% of all birds sold is by cottage processors
- The percentage of birds provided by cottage processors is as follows
 - >96% in Surinam
 - 80% in the Dominican Republic
 - 55-60% in Trinidad & Tobago
 - 50% in Guyana
 - 30% in Barbados
 - 30% in Jamaica

The total number of birds sold by this sub-sector is approx. thirty million per annum.

These studies have confirmed that the cottage processor sub-sector provides service because many consumers prefer freshly-slaughtered poultry, oftentimes by religious slaughter, that the sub-

sector provides significant employment sometimes exceeding that provided by the medium and larger processors and that many families especially in the rural areas depend solely on this sub-sector for their family's existence.

It is clear that the cottage farming and cottage processor sub-sectors are integral components of the Caribbean poultry industry. These sub-sectors provide immense socio-economic benefits to large numbers of persons and their families. The cottage sub-sectors will remain as part of the Caribbean poultry landscape and must be encouraged to improve their operations.

Studies have indicated that the cottage processor sub-sector may provide the greatest risk to the Public Health in the poultry meat chain and as such may provide a barrier to trade as well as posing a risk to other sectors such as tourism. On the other hand, a vibrant and more food-safety conscious cottage sub-sector could in the long run be the best defence for the industry against cheap imports and residual products.

**DIVISION 1
APPLICATION & INTERPRETATION**

1.1 Application of this Code of Practice

1.1.1 Unless specifically provided elsewhere in this Code, the provisions of this Code of Practice apply to processing procedures, pre-requisite requirements and Good Manufacturing Practices for use by CARICOM Cottage Poultry Processors in the handling, slaughter, post-slaughter, packaging, storage and selling operations of primary processed poultry products for human consumption.

1.1.2 The Code is intended to improve the delivery of safe, sound and wholesome product to the consuming public.

1.2 Interpretation

Unless expressly defined elsewhere in this Code of Practice and for the purposes of this Code, the following expressions have the meaning stated:

1.2.1 **Adequate** – sufficient to accomplish the intended purpose of this Code.

1.2.2 **Carcass** - a whole bird after stunning, bleeding, plucking and evisceration. It may include giblets, head & feet.

1.2.3 **Cleaning** - the removal of soil, food residues, fat, dirt, grease, or other objectionable matter.

1.2.4 **Competent Authority** – the Veterinary Public Health Unit of the Ministry of Health or other Governmental unit charged with the responsibility for Animal Slaughter and/or meat inspection.

1.2.5 **Contamination** – the occurrence of any objectionable matter (physical, chemical and/or biological hazard) in the product.

1.2.6 **Cottage Processor** – a place where no more than 1000 birds per week are slaughtered and offered for sale directly to the final consumer (final consumer to be defined and circulated to all)

1.2.7 **Disinfection** – the reduction, without adversely affecting the food, by using acceptable agents (chemical or physical), of the number of microorganisms to a level that will not lead to harmful contamination of the product.

1.2.8 **Edible** – poultry product that is fit for human consumption.

1.2.9 **Establishment** – any building(s) or area(s) in which the product is handled after harvesting and the surroundings under the control of the same management.

1.2.10 **Food Handling** – any operation in the growing and harvesting, preparation, processing, packaging, storage, transport, distribution and sale of the food.

1.2.11 **Food Hygiene** – all measures necessary to ensure the safety, soundness and wholesomeness of the poultry food product at all stages from growth, production, storage or distribution until final consumption.

1.2.12 **Giblets** – the liver from which the gall bladder has been removed, the heart with or without the pericardial sac and the gizzard from which the lining and contents have been removed and have been properly trimmed and washed.

1.2.13 **Official Establishment** – An establishment approved and registered by the Competent Authority in which poultry is slaughtered, processed, handled, packaged and stored.

1.2.14 **Packaging Material** – any containers such as cans, bottles, cartons, bags, boxes, cases and sacks or wrapping and covering materials such as aluminium foil, plastic film, metal, paper, waxed-paper and cloth.

1.2.15 **Pests** – any animals capable of directly or indirectly contamination the poultry food product.

1.2.16 **Poultry** – Any domesticated bird including but not limited to chickens, turkeys, ducks, geese, guinea fowl and pigeons.

DIVISION 2 ESTABLISHMENT: DESIGN & FACILITIES

2.1 Registration

All cottage processors must be registered annually with the Competent Authority or with the Local Health Authority. Registration will be contingent on annual inspection and approvals by the Competent Authority.

2.2 Location

The location of a cottage processor should be governed by the regulations as set out by the national or local town and country agency and other relevant agencies. Approvals should be sought and obtained. Generally, the factors governing approval should include *inter alia*:

- i. Availability of a running potable water supply
- ii. Adequate drainage provisions and acceptable garbage disposal arrangements
- iii. The area should be free from objectionable odours, smoke, dust, flies and other contaminants
- iv. The proximity of nearby structures. Where such structures exist, extreme care must be taken to ensure avoidance from possible contamination
- v. As far as possible, cottage processors should be located downwind of nearby structures.

2.3 Roadways

Roadways and areas serving the cottage processor which are within its boundaries or in its immediate vicinity should have a hard paved surface suitable for wheeled traffic. Yards should be paved or compacted with gravel to prevent excessive dust in the dry season and mud in the rainy season. There should be adequate drainage and provision for cleaning.

2.4 Buildings & Facilities

- 2.4.1 Buildings and facilities should be of sound construction and maintained in a state of good repair.
- 2.4.2 The design and construction should be such as to allow easy and adequate cleaning and sanitation.
- 2.4.3 Adequate working space should be provided to allow for satisfactory performance of all operations.
- 2.4.4 Cottage processors should have at least three distinct and separate areas, namely, holding pens, a processing area and a sales area. These areas should be laid out in a regulated flow fashion designed to prevent cross-contamination. They should be separated with the use of floor to ceiling walls/partitions with chutes or openings in the walls to allow for the passage of product. Additionally, the processing area should be further sub-divided into bleeding/plucking and evisceration. If there is a cut-up area, this should be distinct from the other areas.
- 2.4.5 The following are recommended:
Processing Area
There should be a clear line of separation between holding pens and processing and sales areas. The processing area should further be divided into slaughter/bleed/pluck and

evisceration areas. Where cut-ups are sold, the cut-up area should be further separate from the evisceration area.

The bleeding area should be tiled to a height of six feet using impermeable tiles. In the evisceration area, similar tiles should be placed around the sinks and drain boards.

Floor surfaces should be smooth, non-skid, impervious and graded to drains to prevent pooling of water and to facilitate easy cleaning.

All drains must flow from clean to dirty areas and not *vice versa*.

Table tops, working surfaces and sinks should be of non-absorbent materials, preferably non-corroding metal like stainless steel, aluminium or galvanize sheeting.

Water taps should be conveniently placed at each stage of the operation to allow of a consistent standard of sanitation.

A face basin with running water and soap for hand washing must be located close by for personnel convenience.

Ventilation must be adequate for a comfortable work environment.

Sales Area

Counter tops and shelves should be covered with a smooth impervious material.

Walls should be tiled with impervious material or covered with the same impervious materials as the countertops to a height of six feet, then painted white or similar pastel colour to the ceiling.

Floors should be smooth, non-skid and graded to drains to allow for fast run-off of water.

Storage

There should be adequate provision for storage areas for cleaning and sanitizing agents, bags and other packaging materials.

- 2.4.6 Floors and walls should be free of cracks and crevices to allow for thorough cleaning and disinfection and to avoid build up of vermin.
- 2.4.7 Ceilings should be so designed and constructed to prevent accumulation of dirt and to minimize condensation, mold development and flaking.
- 2.4.8 Internal walls should be painted white or other pastel colour. Painted walls should be smooth and should not be flaking.
- 2.4.9 Toilets should be completely separated from and should not open directly into food handling areas.

2.5 Sanitary Facilities

2.5.1 Water

2.5.1.1 An ample supply of potable water (minimum of 2.5 imperial gallons per bird processed) should be available with adequate facilities for its storage, where necessary and distribution and with adequate protection against contamination. Water tanks must be fitted with proper close-fitting lids.

2.5.1.2 Ice should be made from potable water and should be manufactured, delivered, handled and stored so as to protect it from contamination.

2.5.1.3 The use of non-potable water for any non-food purposes whatsoever in a cottage processor should not be allowed.

2.5.2 Effluent & Waste Disposal

2.5.2.1 Cottage processors should have an efficient effluent and waste disposal system, Effluent and wastes should not be allowed to accumulate thereby posing a danger as a source of product contamination.

2.5.2.2 Containers for inedible materials and wastes should be leak-proof, constructed of metal or other impervious materials, colour-coded if necessary, should be easy to clean or disposable and able to be closed securely.

2.5.2.3 Inedible materials, processing wastes and other waste materials should be removed promptly and at least once daily from the establishment. Access to these wastes by pests is to be prevented. Contamination of foods, potable water, equipment, buildings, yards or roadways by these wastes is to be avoided.

2.5.3 Changing Facilities & Toilets

Adequate, suitable, and conveniently located changing facilities and toilets should be provided as necessary. Toilets should be so designed as to ensure hygienic removal of all waste matter. These areas should be well-lit, ventilated and should not open directly into food-handling areas.

2.5.4 Hand Washing Facilities

These should be so located that users of the toilets must pass them when returning to the processing and food-handling areas. Hand washing facilities should also be conveniently located for persons working in the processing and food-handling areas. They should have running potable water, a suitable hand-cleaning soap and hand-drying. If paper is used for hand-drying, there should be receptacles for waste paper. Taps of a non-hand operable type are desirable. Waste water should drain away from the processing facility.

2.5.5 Disinfection Facilities

Adequate facilities for storage of disinfectants and other cleaning materials should be provided and located such that these materials cannot be mistakenly used in processing. There should also be adequate facilities for cleaning and disinfection of working implements, equipment and the entire facility.

2.5.6 Lighting

Adequate natural or artificial lighting should be provided throughout the establishment. Lighting should not alter the colour of the product. Light bulbs and fixtures suspended over product at any stage of production should be of a safety type or protected to prevent contamination of the product in the event of breakage.

2.5.7 Ventilation

Adequate ventilation should be provided to prevent excessive heat, steam condensation and the build-up of stale air. The direction of air flow should be from clean areas to dirty, never the opposite.

2.6 Equipment and Utensils

- 2.6.1 All equipment and utensils used in food handling areas and which may contact the product should be made of material which does not transmit toxic substances, odour or taste, are non-absorbent, are resistant to corrosion and are capable of withstanding repeated cleaning and disinfection. Food contact surfaces should be smooth and free from pits and crevices.
- 2.6.2 All equipment and utensils should be so designed and constructed as to prevent physical and biological hazards. They should permit easy and thorough cleaning and disinfection. Stationary equipment should be installed so as to permit easy access and thorough cleaning and disinfection.
- 2.6.3 Refrigerated spaces should be equipped with temperature measuring devices.

DIVISION 3

ESTABLISHMENT: HYGIENE REQUIREMENTS

3.1 Maintenance

The buildings, drains, yards, equipment, utensils and other physical facilities should be maintained in good repair and in an orderly condition.

3.2 Cleaning & Disinfection

- 3.2.1 Cleaning and disinfection should meet the requirements of this Code of Practice (see Annex 1).
- 3.2.2 To prevent product contamination, all equipment and utensils should be cleaned as frequently as necessary and disinfected as circumstances demand and not less than once per operating session.
- 3.2.3 Adequate precautions should be taken to prevent the products from being contaminated by chemical agents during cleaning and disinfection of rooms, equipment or utensils. Cleaners and disinfectants should be suitable for the purposes intended and should be acceptable to the Competent Authority.
- 3.2.4 Either immediately after cessation of work in a processing period or at other such times as appropriate, floors, walls, drains, yards and auxiliary structures should be thoroughly cleaned.
- 3.2.5 Changing facilities and toilets should be kept clean at all times.
- 3.2.6 Roadways and yards in the immediate vicinity of and serving the establishment should be kept clean and orderly.
- 3.2.7 Persons in charge of cleaning and disinfection should be trained and should keep written or electronic records.

3.3 Wastes and Effluents

Inedible wastes, effluents and other waste materials should be handled so as not to contaminate live birds, product or potable water. Wastes should be removed from the processing areas as frequently as required and at least once per procession period. Immediately after disposal of the wastes, receptacles used for waste storage and any equipment or surfaces that may have come into contact with this waste should be cleaned and disinfected.

3.4 Animals & Pets

These are to be excluded from the establishment.

3.5 Pest Control

- 3.5.1 There should be an effective and continuous programme for the management of pests. The establishment and surrounding areas should be regularly inspected for evidence of pest infestation

- 3.5.2 Should pests gain entrance to the establishment, eradication measures should be instituted. Control measures for integrated pest management should be approved by the Competent Authority.
- 3.5.3 During pest management measures, precaution should be taken to safeguard all personnel, live birds, product, equipment and utensils from contamination. If live birds or product intended for human consumption becomes contaminated by pesticides, they are to be discarded or held for examination by the Competent Authority. Equipment or utensils that become contaminated should be thoroughly cleaned to remove all residues, then disinfected prior to use.

3.6 Storage of Hazardous Substances

- 3.6.1 Hazardous substances like disinfectants, detergents and pesticides which may represent a hazard to health should be suitably labeled with a warning about their toxicity and usage. They should be stored in locked cabinets. Extreme care should be taken to avoid contamination of live birds, personnel or food products.
- 3.6.2 Except when necessary for hygienic or processing purposes, no substances which could be toxic to human health and could contaminate live birds or product should be stored or used in food handling areas.

3.7 Personal Effects & Clothing

Personal effects and clothing should not be deposited in food handling areas.

DIVISION 4 PERSONNEL HYGIENE & HEALTH REQUIREMENTS

4.1 Hygiene Training & Medical Examination

All persons in the cottage processing establishment should be in possession of a current Food Handlers' badge or equivalent issued by the appropriate governmental agency. Such badge or certificate testifies to training in the hygienic handling of food, in personal hygiene and a medical examination by the local health authority.

Training should be done on a continuing basis and should include the relevant parts of this Code of Practice.

Medical examination of a food handler should be carried out at other times when indicated.

4.2 Communicable Diseases

The management should take care to ensure that no person, while known or suspected to be suffering from, or to be a carrier of a disease transmitted through food or while afflicted with infected wounds, skin infections, sores or with diarrhoea, is permitted to work in any food handling area in any capacity in which there is any likelihood of such a person directly or indirectly contaminating food with pathogenic organisms. Any person so affected should immediately report to management his or her illness.

4.3 Injuries

Any person who has a cut or wound should not continue to handle food or food contact surfaces until the injury is completely protected by a waterproof covering that is firmly secured and which is conspicuous in colour. First aid facilities should be provided.

4.4 Hand Washing

Every person engaged in a food handling area should wash their hands frequently and thoroughly while on duty using running potable water and a hand cleaner. Hands should always be washed before commencing work, immediately after using the toilet, after eating and smoking, after handling contaminated materials or other chemicals, after handling wastes, after handling any materials which might be capable of transmitting disease and whenever else necessary.

4.5 Personal Cleanliness

Every person working in a cottage processor and involved in handling birds should maintain a high degree of personal cleanliness while on duty. At work, they should wear suitable protective clothing including hair covering, beard restraint and suitable footwear. Protective clothing and footwear should be maintained in a clean condition.

4.6 Jewellery & Related Items

Jewellery including wristwatches, earrings, rings, necklaces, bracelets or broaches should not be worn during the processing of birds. The wearing of nail polish, strong perfumes or artificial eyelashes should not be permitted during processing.

4.7 Personal Behaviour

Any behaviour which could result in contamination of food such as eating, use of tobacco, chewing or unhygienic practices such as spitting should be prohibited in processing and other food handling areas.

DIVISION 5 PROCESSING AND OPERATIONAL REQUIREMENTS

5.1 Live Bird Management

- 5.1.1 No live birds should be accepted by the cottage processor if such birds are known to be sick or to be suffering from any disease
- 5.1.2 DOA (Dead on Arrival) are not to be accepted
- 5.1.3 Only healthy birds are to be accepted from the farms. It is the responsibility of the cottage processor to secure a delivery note from the farmer/distributor indicating that the birds in each delivery are in good health
- 5.1.4 Birds are to be withdrawn from antibiotics in keeping with the requirements of the Competent Authority, as prescribed by a licensed veterinarian or, in the absence of the above, as prescribed by the manufacturer, Each delivery of birds should be accompanied by a certificate stating that the birds are healthy and that they have been adequately withdrawn.
- 5.1.5 Live birds held in the holding pens at the cottage processor should be maintained under conditions that will protect against contamination and injury.
- 5.1.6 Feed is to be withdrawn at six hours prior to slaughter to ensure that the gut is empty thereby minimizing the chances of rupturing the gut during evisceration.
- 5.1.7 Prior to slaughter, birds are to be kept on an adequate supply of water (4.5 litres per 60-80 birds).
- 5.1.8 Unsold birds are not to be returned to the farm.
- 5.1.9 Cottage processors should keep proper written records of birds received, supplier farms and certificates of good health and antibiotic withdrawal.

5.2 Bird Slaughter, Plucking & Evisceration

- 5.2.1 Knives should be pre-sharpened and clean.
- 5.2.2 Processing steps should be by technically competent persons who have been suitably trained or be supervised by such persons.
- 5.2.3 Slaughter should be by cutting the blood vessels in the neck without cutting the oesophagus or the windpipe.
- 5.2.4 Birds should be properly bled before scalding. The recommended bleed time is two minutes.
- 5.2.5 Scalding should be done in stainless steel, aluminium or iron pots heated on LPG burners. Kerosene or other liquid fuel burners are not recommended because of the risk of tainting the product.
- 5.2.6 Scald water should be maintained at about 55°C (131°F) at 2.2 litres per bird. Scalding should follow the following guidelines:
 - 49-50°C – 3 minutes
 - 51-53°C – 2.5 minutes
 - 54-60°C – 2.0 minutes

In larger operations where >500 birds are slaughtered per session, at least two separate scald water containers may be required.

- 5.2.7 Plucking machines may be of the hooded and belted type or centrifugal spin type. Where the spin type machine is used, it should be so installed as to prevent birds from falling on the floor when the trap door is opened. Sufficient protection to control the scattering of feathers should be employed.
- 5.2.8 Birds should be rinsed after plucking with running potable water containing 6 ppm chlorine.
- 5.2.9 The gutting procedure should be carried out so as to prevent puncturing the gut and contamination of the carcasses with crop contents, faecal material or gall. Hand-washing facilities must be conveniently located at the evisceration area to reduce the risk of contamination of the carcasses.
- 5.2.10 During the evisceration process, operators must be trained to lookout for evidence and symptoms of diseased birds. These include excess fluid in the body cavity, lumps and spots on the liver, enlarged internal organs and discoloured flesh. Such birds must be rejected as unfit for human consumption.
- 5.2.11 After evisceration, carcasses should be rinsed with running potable water containing 6ppm chlorine.
- 5.2.12 Immediately on removal, the alimentary tract should be placed in waste bins away from contact with the carcasses.
- 5.2.13 Gizzard contents should be emptied into waste bins, the lining removed and discarded and the gizzards washed in running potable water containing 6ppm chlorine.
- 5.2.14 Water usage after plucking should be approx. 6 litres per bird
- 5.2.15 Total water usage by a cottage processor should be approx. 12-15 litres per bird including water for washdown purposes and personal use.
- 5.2.16 All steps in the production process including packaging should be performed without unnecessary delay and under conditions which will prevent the possibility of contamination, deterioration or the development of pathogenic or spoilage microorganisms.
- 5.2.17 Processing should be conducted according to the procedures established in this Code of Practice.

5.3 Packaging

- 5.3.1 Immediately after evisceration and washing, carcasses should be placed in clean polyethylene bags and tied or heat-sealed. **DO NOT USE PAPER STAPLERS AND METAL STAPLES.**
- 5.3.2 Products may be sold immediately after packaging with suitable instructions to the consumer that the product is to be used immediately or refrigerated until use. If the packages are to be held, they are to be chilled either with chipped ice or in a chiller.
- 5.3.3 The temperature of packaged birds should be reduced to below 5°C (41°F) within two hours.
- 5.3.4 All packaging materials should be certified as food-grade and should be stored in a clean and sanitary manner. Bags for packaging should be sound and should provide appropriate protection from contamination and from contaminating other food products through leakage.
- 5.3.5 Packaging should be carried out in a manner and under conditions which preclude the introduction of contamination into the product.

5.4 Lot Identification

- 5.4.1 A lot is defined as a quantity of food produced under identical conditions usually from the same or similar raw material with the same origin, all packages of which should bear a lot number that identifies the production during a particular time interval.
- 5.4.2 In its simplest form, packages should carry a date and time written on the outside or on a label. This date and time should link back to the records of bird purchases so that the farm of origin of the particular lot of birds may be identified in the event of a recall procedure for animal health or public health issues.

5.5 Signage

- 5.5.1 The following licences, which are issued on an annual basis, and are required to operate a cottage processing operation, should be displayed in full view of customers at all times that the cottage processor is in operation:
- Registration certificate from the Competent Authority
 - Weighing scale licence from the relevant Weights & Measures Authority
 - Food Handler's licence
- 5.5.2 The following should also be prominently displayed in full view of all customers:
- Price schedule showing the live weight price per unit of poultry (kg or lb.) being sold on each day.
 - The cost of plucking, gutting and cutting up per bird
 - A food safety notice alerting customers about the handling requirements of raw poultry during transport and at home
 - Address and telephone numbers of the Competent Authority in case of complaints
- 5.5.3 There must also be adequate signage inside the establishment displayed at the appropriate places for the following:
- Hand washing after using the washroom
 - Hand washing before handling birds and products and after eating, smoking and after working breaks
 - What to look for in diseased birds
 - Rejection of all diseased birds and DOA
 - No eating, smoking or chewing gum inside the establishment during processing
 - All other signage as developed by the Competent Authority and the national poultry associations for cottage processors.

**DIVISION 6
GENERAL REQUIREMENTS IN
LIVE POULTRY PRODUCTION, HARVESTING, TRANSPORT & STORAGE**

6.1 Growing or harvesting areas

Poultry should not be raised or harvested in areas where the presence of potentially harmful substances would lead to an unacceptable level of such substances in the poultry.

6.2 Protection from contamination by wastes

6.2.1 Birds should be protected from contamination by human, animal, domestic, industrial and agricultural wastes which may be present at levels likely to be a hazard to health. Adequate precautions should be taken to ensure that these wastes are not used and are disposed of in a manner which will not constitute a health hazard through use of the poultry food product.

6.2.2. Arrangements for the disposal of domestic, agricultural and industrial wastes in areas in which the poultry is derived should be acceptable to the Competent Authority.

6.3 Pest & Disease Control

Control measures involving treatment with chemical, physical or biological agents should only be undertaken by or under direct supervision of personnel who have a good understanding of the potential hazards to health, in particular those which may arise from residues in the poultry. Such measures should only be carried out in accordance with the recommendations of the Competent Authority or other agency having jurisdiction in that matter. In general, spraying around poultry houses with pesticides should only be carried out when the pens are empty.

6.4 Poultry Production

6.4.1 Techniques

Methods and procedures associated with production of the birds should be hygienic and such as not to constitute a potential health hazard or result in contamination of the poultry.

6.4.2 Equipment & Containers

Equipment and containers used for production of the poultry should be so constructed and maintained as not to constitute a hazard to health. Containers which are re-used should be of such material and construction as will permit easy and thorough cleaning. They should be cleaned and maintained clean and where necessary disinfected. Containers previously used for toxic materials should not subsequently be used for holding foods/feeds or food/feed ingredients.

6.5 Removal of poultry obviously unfit for human consumption

Birds which are obviously unfit for human consumption, for instance sick, show signs and symptoms of disease or dead birds, must be immediately segregated from the rest of the flock. Such birds must be disposed of in the appropriate manner as recommended by the Competent Authority. Disposal must be such as to avoid contamination of the rest of the flock, water supplies or other food/feed materials.

6.6 Protection against contamination and injury

Suitable precautions should be taken to protect the poultry from being contaminated by pests or by chemical, physical or biological contaminants or other objectionable substances. Protection should also be taken to avoid injury to birds.

6.7 Transportation

6.7.1 Vehicles & Transport Containers

Vehicles and containers for transporting live poultry from the production areas should be adequate and suitable for the purpose intended. Transport crates should be of such materials and construction as will permit easy and thorough cleaning. Transport vehicles and crates should be cleaned, disinfected and maintained so as not to constitute a source of contamination to the poultry.

6.7.2 Handling procedures

All handling procedures during catching and transport from the farm to the cottage processor should be such as prevent the poultry from being contaminated or injured.

6.8 Storage at the Cottage Processor

6.8.1 Main holding pens.

The main holding pens for live poultry at the place of processing and sale should be such as to maintain the birds in a comfortable manner. The pens should generally be outside, located at the side or back of the building never at the front and physically separated from the processing area. The pens should be so constructed as to allow a free flow of air through the pens and the birds should be sheltered from the elements. Fans may be used for ventilation. A minimum of 0.5 square feet of space per bird is recommended. Walls of the main holding pens should be solid to a height of at least two feet to keep out rodents, then completed in wire mesh to the roof. The floor of the pens should be such as to minimize contamination of the live birds by faecal materials. This may be achieved by use of slatted floors or by use of litter to a minimum depth of two inches. Floors must be cleaned and washed and litter removed between different bird deliveries

6.8.2 Display pens.

These pens are for display/selection of birds by the consumer and should therefore only house as much birds as is needed for a short period (can be replenished from the main holding pens as above). Such display pens should be positioned so as to facilitate viewing/selection of birds by the consumer. An area of not less than 0.5 square feet per bird should be allowed. Walls should be solid to a height of at least two feet and then completed with wire mesh to allow adequate ventilation. The floor must be slatted or covered with litter to a depth of two inches. Where birds are sold on a live weight basis, the weigh scale should be positioned for ready viewing by customers.

6.9 Hygiene Requirements for Live Bird Holding/Display Areas

All requirements as mentioned above from Sections 2.1 to 2.6 apply to those areas at the cottage processor where birds are to be held and displayed prior to sale. The ultimate aim of these measures is to protect the live birds from contamination by physical, chemical and

biological hazards prior to sale to the final consumer and to ensure that a wholesome and safe product is delivered to the final consumer.

DIVISION 7
GOVERNMENT INSPECTION

- 7.1 Inspection of the establishment by the Competent Authority should always prior to the annual registration process.
- 7.2 There should be random inspections of birds and carcasses by the Veterinary Public Health Department or other veterinary health agency
- 7.3 There should be random inspections of the premises and operating procedures by the Competent Authority to ensure compliance with this Code of Practice
- 7.4 Inspection of birds or carcasses should be undertaken whenever the cottage processor reports suspected poultry disease
- 7.5 There should be inspections by the Competent Authority upon receipt of complaints from customers

CODE OF PRACTICE
FOR USE BY CARICOM COTTAGE POULTRY PROCESSORS
ANNEX 1 – CLEANING & DISINFECTION

1.0 GENERAL PRINCIPLES

- 1.1. By its very nature, live poultry may be a source of significant risk to the public health. These risks may take the form of chemical residues in the birds, microbes that cause discomfort, disease and even death, other microbes that cause food spoilage or can lead to contamination of other foods and the occasional physical hazards. Such hazards can only be reduced by Good Agricultural Practices and Good Manufacturing Practices.
- 1.2. Good hygiene demands effective and regular cleaning and disinfection of premises, equipment, utensils and vehicles used for transporting birds to remove food residues, dirt and other hazards which may be risks to the public health.
- 1.3. Cleaning and disinfection may sometimes be combined as a single-step procedure by use of a detergent-disinfectant mixture. This is generally less effective than a two stage and separate cleaning and disinfection process. The presence of dirt and food residues on the surfaces to be cleaned and disinfected reduces the effectiveness of the disinfection agent.
- 1.4. Disinfection must always be preceded by effective cleaning to eliminate dirt and food residues.
- 1.5. The methods of cleaning and disinfection should be considered acceptable by the Competent Authority.
- 1.6. At least one individual at the establishment should be suitably trained in the handling of industrial cleaners and disinfectants and be responsible for the processes of cleaning and disinfection.
- 1.7. Industrial detergents and disinfectants can be dangerous chemicals and require careful handling. Different products must never be mixed unless recommended by the manufacturer. Hypochlorite solutions (bleach) can be especially dangerous as if they are mixed with acidic products, chlorine gas may be released. Chlorine gas is fatal to humans and to birds.
- 1.8. Containers in which detergents and disinfectants are kept should be clearly marked and stored separately from food and packaging materials. Manufacturers' instructions should be carefully observed. Labels should not be removed.

2.0 CLEANING

- 2.1 Cleaning procedures will require the following:

- Removal of gross debris from surfaces by brushing, scrubbing or scraping with application of water
 - Use of a detergent or soap solution to loosen soil
 - Rinsing with potable water
 - Use great care with abrasive materials to ensure that the food surface is not damaged and that residual fragments from brushes, scrubbers or other abrasive materials do not remain to contaminate poultry products
- 2.2 Cleaning should be carried out by the combined use of physical methods e.g. scrubbing , chemical methods e.g. soap or detergent and rinsing. Soaps and detergents should be used as recommended by the manufacturers.
- 2.3 Soaps or detergents selected by cottage processors should be suitable for use to remove fats and proteins. They should also be non-corrosive to the equipment and utensils.
- 2.4 In hard water areas, a hard scale (“stone”) may be formed on equipment surfaces especially in the presence of fat and protein. Such “stone” can become a major source of microbial contamination. “Stone” may be removed by soaking in acid or alkaline detergents.

3.0 DISINFECTION

- 3.1 Disinfection is intended to kill all pathogenic microbes and reduce the numbers of other microbes. Generally speaking, disinfection processes do not kill all microorganisms present but reduce their numbers to an acceptable risk.
- 3.2 No disinfection process can be fully effective in the absence of thorough cleaning. The presence of dirt, fat or protein reduces the effectiveness of disinfection agents by acting as a protective layer for microorganisms.
- 3.3 Heat is always the best disinfecting agent but the use of heat may not always be practicable. In such cases, chemicals may be used. The use of chemical disinfectants may lead to the selection of resistant microorganisms.
- 3.4 The use of hot water at 80°C (176°F) for two contact minutes is highly recommended for utensils and knives by immersion in the hot water.
- 3.5 When chemical disinfectants are used, their effectiveness is determined by the choice of disinfectant, the cleanliness of the area to be disinfected, temperature, concentration and contact time.
- 3.6 Chemicals which are difficult to rinse off and which may taint the poultry product should be avoided.
- 3.7 Chlorine compounds, the hypochlorites or chlorine bleaches, are among the most suitable disinfectant agents. Commercial liquid bleach is normally available in the region as a solution containing 5.25% available chlorine. When used as a chemical disinfectant, these should be used at concentrations of 100-250 milligrams of available chlorine per litre. To achieve this, commercial bleach should be diluted 10-25 ml to 4.5 litres (about 2-5 teaspoons of liquid bleach to 1 Imperial gallon of water). Contact time at room temperature should be about twenty minutes before two thorough rinses with potable water. Rinsing with hot water at 80°C is recommended. After rinsing, there should be no odour of chlorine.
- 3.8 Bleach solutions can be corrosive to metal surfaces.

- 3.9 Quaternary ammonium compounds, popularly called quats, also have good disinfectant properties. They should be used at concentrations ranging from 200-1200 milligrams per litre. The higher concentrations are used where the water is hard.
- 3.10 To remove “stone”, rinsing in an acid solution (10% acetic acid) is usually effective. After the stone is completely dissolved, rinse thoroughly with potable water before disinfecting.
- 3.11 After disinfection, equipment should be allowed to drain thoroughly and air-dry. Avoid re-contaminating cleaned, disinfected equipment and utensils.

ANNEX 2
SIGNAGE

The following signs are to be prominently displayed for customers:

1. Current Registration Certificate from the Competent Authority
2. Food Handlers' Badges
3. Weights and Measures certification of scales
4. Customer Pricing Information (see Annex 3)
5. Customer General Information Poster (see Annex 4)
6. Customer Handling Information Poster (see Annex 5)
7. List of addresses and telephone contacts for the Competent Authority

ANNEX 3

PRICING INFORMATION

**BROILER BREEDER
/LAYER**

DUCKS

Live Weight/Kg (lb.)

Processing Charges

- **Plucking**
- **Singeing**
- **Gutting**
- **Pluck & Gut**
- **Cutting-up**

Other Charges

Final Dressed Weight

Per Kg

Per lb.

This sign must be placed at the entrance to the shop in easy view of all potential customers.

ANNEX 4

GENERAL CUSTOMER INFORMATION

The Ministry of Health advises that in order to receive a safe and wholesome product, consumers should:

- **Ensure that the premises are maintained in a sanitary condition and that there is running water**
- **Ensure that the following certificates are displayed:**
 - Annual Registration Certificate**
 - Weights and Measures Certification of weights**
 - Food Handlers' badges or health certificates**
- **Ensure that the bird selected is healthy and well-fleshed**
- **Ensure that handling and processing are done in a safe & sanitary fashion**
- **If purchasing an already processed bird, ensure that the product is :**
 - not off-coloured (bruised, red, bluish etc.)**
 - properly cleaned and is free of all feathers and pin feathers**
 - free of all entrails**
 - chilled or on ice and feels cool to the touch**
- **Ensure that the product is packaged in clear plastic bags only and not wrapped in paper**

This sign is to be placed in the customer and sales area in easy view of all customers.

ANNEX 5

FOOD SAFETY NOTICE

CUSTOMER HANDLING INFORMATION

The product which you have just purchased can spoil rapidly.

DO NOT STORE FOR ANY LENGTH OF TIME IN A HOT VEHICLE WHILE YOU SHOP OR DO OTHER CHORES

THIS PRODUCT SHOULD BE COOKED WITHIN 60-90 MINUTES OF PURCHASE

IF THE PRODUCT IS TO BE STORED FOR LESS THAN ONE DAY, KEEP IN THE REFRIGERATOR

IF THE PRODUCT IS TO BE STORED FOR UP TO THREE DAYS, STORE IN A FREEZER

DO NOT ALLOW THIS PRODUCT TO COME INTO DIRECT CONTACT WITH SALADS OR READY TO EAT FOODS

AFTER CUTTING AND PREPARING THIS PRODUCT, WASH ALL UTENSILS, KNIVES AND CUTTING BOARDS WITH LOTS OF RUNNING WATER, SOAP OR DETERGENT OR A LITTLE BLEACH

This sign must be placed in a conspicuous place in the customer and sales area in good view of all customers.

ANNEX 6

HAND WASHING TECHNIQUES

HANDS MUST BE WASHED PROPERLY. TO DO SO:

- **WET BOTH HANDS**
- **APPLY SOAP VIGOROUSLY TO BOTH PALMS**
- **USE THE PALM OF THE RIGHT HAND TO WASH THE BACKSIDE OF THE LEFT HAND RUNNING THE FINGERS OF THE RIGHT HAND THROUGH THE FINGERS OF THE LEFT HAND, THEN *VICE VERSA***
- **ENSURE THAT HANDS ARE SOAPED UP TO THE WRISTS**
- **AFTER 20-30 SECONDS, RINSE PROPERLY WITH CLEAN WATER**
- **ALLOW HANDS TO DRY NATURALLY.**
- **DO NOT USE DIRTY RAGS OR YOUR CLOTHES TO DRY HANDS**

This sign must be placed above the washbasin in easy view of all persons using the washbasin.

ANNEX 7

WHEN TO WASH HANDS

- **ALWAYS WASH HANDS AFTER USING THE WASHROOM**
- **WASH HANDS AFTER ANY WORKBREAK BEFORE RETURNING TO WORK**
- **WASH HANDS BEFORE AND AFTER EATING, SMOKING OR CHEWING GUM**
- **WASH HANDS BEFORE WORKING IN THE CUT-UP AREA AND IN PACKAGING**
- **WASH HANDS AFTER HANDLING MONEY AND BEFORE HANDLING POULTRY**

Several of these signs must be put up in easy view of all persons in the toilets, above the washbasin, in the processing areas and at the entrance to the shop.

ANNEX 8**SUGGESTED LIST OF BASIC EQUIPMENT**

The following list of equipment is suggested as being absolutely basic to the needs of a cottage processor:

1. At least one sharp stainless steel slaughtering knife
2. Sharpening files or sharpening stone
3. Sharp stainless steel Chinese chopper or cutlass
4. Two slaughter cones made of plain galvanized sheeting material
5. Two gas-fired or wooden-fired fireplaces
6. Two five litre stainless steel or aluminium pots with handles and smooth interiors
7. Two metal covered or synthetic material covered tables, 1 metre x 1.5 metres
8. One scale certified for trading purposes
9. One metal stem thermometer up to 100°C (212°F)
10. One rotating plucker (optional)

ANNEX 9**ADDITIONAL SUGGESTED EQUIPMENT
FOR A LARGER COTTAGE PROCESSOR**

1. One slaughter cone equipment made of 304 stainless steel designed to allow the slaughter of seven birds per batch fitted with a container to collect the blood.
Cost USD1468
2. One manual gas-fired scalding machine designed to scald seven birds per batch, made of 304 stainless steel equipped with a system of rotation and fitted with a digital temperature indicator which can be set and maintained through a solenoid control on the gas.
Cost USD 3205
3. One rotating plucking machine made of 304 stainless steel and fitted with 45 rubber fingers. Fitted with protective guards and a 1hp motor.
Cost USD 2911
4. One manual eviscerator to deal with seven birds per batch, made of 304 stainless steel and with a central container for collection of the waste. Fitted with water circulation system.
Cost USD 1397
5. One pedestal packaging machine made of 304 stainless steel.
Cost USDF 387
6. One packaging table made of 304 stainless steel with adjustable legs.
Cost USD 459
7. One cut-up machine fitted with 9 inch circular blade and 1 hp motor, made of 304 stainless steel with motor protection and guards
Cost USD 2865
8. One Wash tank made of 304 stainless steel, with bronze drain valve and capable of holding 50 birds. Can be used for chilling birds with ice.
Cost USD 884

The above plant will handle 60 birds per hour and employ 5 persons.

The above equipment is representative and is not intended to be an endorsement by the author or by the Caribbean Poultry Association.

ANNEX 10

**PROMOTING FOOD SAFETY IN
POULTRY COTTAGE PROCESSORS
QUALITY IMPROVEMENT GUIDELINES**

- **Keep records of all birds delivered (number of birds, total weight, supplier's name & address, name and address of farm)**
- **Reject all DOA (dead on arrival), diseased birds, sick birds, any birds that appear unhealthy in any way**
- **Keep live birds in pens with plenty of ventilation (use fans if necessary), drinking water (4.5 litres per 60-80 birds)**
- **Do not overcrowd holding pens (0.5 square foot per bird)**
- **Remove feed 6 hours pre-slaughter**
- **Avoid contamination of birds by faecal matter**
- **Keep birds safe from household pets, rats, mice and other vermin**
- **Do not return unsold birds to the farm**

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ANNEX 11

**PROMOTING FOOD SAFETY IN
POULTRY COTTAGE PROCESSORS
QUALITY IMPROVEMENT GUIDELINES**

- **Use sharp, clean knives for slaughter**
- **Do not cut windpipe and oesophagus**
- **Bleed adequately (two minutes)**
- **Do not scald above 60°C (140°F)**
- **The best scalding temperature is 55°C-60°C (131°F-140°F)**
- **Scald for about 75 seconds**
- **Pluck immediately after scalding**
- **Wash plucked carcass in potable running water containing a little chlorine (6 parts per million)**
- **Gut all birds thoroughly**
- **Avoid puncturing gut**
- **Place gut and gut contents in a waste container away from gutted birds immediately on removal**
- **Wash gutted birds thoroughly with potable running water containing a little chlorine (6 ppm)**

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ANNEX 12

**PROMOTING FOOD SAFETY IN
POULTRY COTTAGE PROCESSORS
QUALITY IMPROVEMENT GUIDELINES**

- **During gutting look for signs of disease, example discoloured flesh, lumps and spots on the liver, enlarged organs, excessive liquid in the body cavity**
- **Reject all birds showing any signs of disease or ill-health**
- **Do not rupture gall bladder during gut removal**
- **Remove lining of gizzard and gizzard contents and place in a waste bin immediately**
- **Wash cleaned gizzard, giblets and scraped feet in potable running water before packaging in a small baglet. Tie baglet**
- **Place baglet inside empty broiler**
- **Package birds in clean new plastic bags. Tie bags or heat-seal. Do not staple**
- **Do not use paper for packaging.**
- **Write weights of birds on the bags.**

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ANNEX 13

**PROMOTING FOOD SAFETY IN
POULTRY COTTAGE PROCESSORS
QUALITY IMPROVEMENT GUIDELINES**

- **Ensure adequate supplies of running water (approx. 6-7 litres per bird processed)**
- **Keep area clean, free from flies, dust, objectionable odours**
- **Keep away all vermin especially rats and mice**
- **Keep away all household pets**
- **Ensure that area is clean and well-drained**
- **Birds must move from dirty to clean areas**
- **Drains must run in the opposite direction, namely from clean to dirty**
- **Collect all waste and garbage in closed containers or in garbage bags that are tied**
- **Garbage and waste must be collected and removed to an approved dump immediately**

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ANNEX 14

**PROMOTING FOOD SAFETY IN
POULTRY COTTAGE PROCESSORS**

QUALITY IMPROVEMENT GUIDELINES

- **Personnel must be clean**
- **Personnel must wear clean clothes, coveralls, head covering, beard restraint**
- **Personnel must not wear jewelry or strong perfumes**
- **Practise washing hands regularly and thoroughly**
- **No eating, smoking or chewing gum in the processing areas**
- **If you are sick in any way, please let your supervisor know**
- **Do not pick your nose or your ears or scratch your hair in the processing area**
- **Keep your work area clean and tidy**
- **Your customers are depending on YOU for safe and healthy products**
- **Your customers will keep coming back if the product is healthy, wholesome and safe. KEEP IT THAT WAY**

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ANNEX 15

PROMOTING FOOD SAFETY IN POULTRY COTTAGE PROCESSORS QUALITY IMPROVEMENT GUIDELINES

- **At the end of the day, any unsold dressed birds must be placed in a freezer overnight**
- **Unsold live birds must be give adequate feed and water for the night**
- **Wash down all equipment, walls, floors, tables, utensils and knives with potable water, sanitise with a little bleach (1tsp per litre) for about twenty minutes, then wash down with lots of potable water**
- **Pack everything properly and leave to dry**
- **Do not leave utensils etc. on the floor**
- **Lock the shop properly to keep out rats, mice and other vermin**
- **DO NOT LEAVE ANYTHING DIRTY OVERNIGHT**

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