Standards for the Raising and Handling of Broiler Chickens

BCSPCA

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1.0 INTRODUCTION

The SPCA Certified program is an independent third party certification system. It provides a certified assurance to consumers that food products bearing the program label comply with these standards for the raising and handling of animals.

The goals of SPCA Certified are to:

- Facilitate and support evidence-based improvements to farm animal welfare standards.
- Provide voluntary, third party animal welfare certification services to the animal agriculture industry.
- Provide consumers with an assurance that animals from certified farms were raised according to high animal welfare standards and have not been fed mammalian or avian proteins.

The BCSPCA believes that an animal's welfare is synonymous with its quality of life, and that animals' health and emotions both contribute to their welfare.

While we acknowledge that it is not possible to prevent animals from experiencing all pain or discomfort in their lives, our standards strive to provide animals with the following Five Freedoms, which are derived from those first described by the Farm Animal Welfare Council of the U.K:

1. Freedom from hunger and thirst
2. Freedom from discomfort
3. Freedom from pain, injury, and disease
4. Freedom from distress
5. Freedom to express behaviours that promote well-being

These standards will be updated and amended by the Species Advisory Committees as new scientific information and improved animal care practices are developed and proven to improve animal welfare.

The key components of the program for broiler chickens are:

- Sufficient space to move freely, preen, stretch and flap wings
- Access to feed and water at all times
- Feed that does not contain antibiotics or mammalian/avian derived protein
- Provision of a dark period to allow adequate rest
- Provision of adequate air quality
- Regular monitoring of lameness
- The development of a Flock Health Plan

This standard is intended to complement the *Recommended Codes of Practice for the Care and Handling of: Chickens, Turkeys, and Breeders from Hatchery to Processing Plant* (*RCOP – Poultry)* developed by the Canadian Agri-Food Research Council. All participants in the SPCA Certified labelling program are expected to have a thorough understanding of and adhere to the *RCOP – Poultry* and the standard set out in this document.

The BC SPCA Standard for the Raising and Handling of Broiler Chickens has been written in consultation with producers, veterinarians, and specialists in the fields of animal science, including scientists with expertise in nutrition, physiology, and behaviour. However, no endorsement by the Species Advisory Committee members or their respective organizations is implied.

2.0 FEED and WATER

2.1 Feed must be nutritionally complete and available at all times. Feed may be withheld only prior to catching for a maximum of 5 hours.

2.2 Fresh, clean water must be provided at all times. Water availability must be ensured when temperatures are below the freezing point. An emergency water supply sufficient for one day of use must be available in case of shut-off of main water supply.

2.3 Water and food levels must be checked on a daily basis in order to ensure that equipment is functional and that birds are eating and drinking. Drinker heights must be checked daily. It is strongly recommended to install water meters to monitor flock water intake.

2.4 Feed must not contain mammalian or avian derived protein, with the exception of milk or milk-derived products.

2.5 The addition of antibiotics at a sub-therapeutic level to the feed is prohibited. The use of therapeutic antibiotics is regulated. Such treatments must be prescribed by a veterinarian for treatment of a specific medical condition. All veterinary prescriptions and treatment records must be provided to the Validator upon inspection.

2.6 The use of coccidiostats, probiotics, enzymes, or other nutritive supplements in feed or water is acceptable. A list of any such feed supplements or additives used (other than vitamin/mineral mixes) must be presented to the Validator.

> **Box #1:** Coccidiostats, which are not antibiotics, will be permitted until a reliable, commercially available vaccine is developed to prevent coccidiosis. The use of broiler strains selected for resistance to coccidiosis is recommended.

2.7 Ingredient breakdown and "minimum guaranteed nutrient analysis" of feedstuffs for each group of animals must be made available to the Validator.

2.8 Adequate feeder and drinker space must be provided per kg of bird live-weight as outlined below. New water systems installed must not be bell drinkers or hanging water troughs, due to the potential for flooding with these types of systems.

Feed Trough: 1.25cm/kg[1]
Feed Pans/Bells: 1.0cm/kg
Water Trough: 1.25 cm/kg[1]
Bell Drinker: 1/200kg
Water Nipple: 1/20kg
Water Cups: 1/20kg

[1]note that open trough provides access at both sides. Feed and water space available is therefore double the actual trough length shown above.

2.9 No bird must have to travel more than 3-4 meters to reach a feed and water source.

3.0 ENVIRONMENT

3.1 Housing

a) Housing design must be constructed and maintained so that there are no areas likely to cause sickness, injury, or distress to the birds.

b) Flooring should be easy to disinfect, preventing parasites and/or pathogens from affecting the health of new flocks. Earth floors are discouraged, due to their difficulty to disinfect between flocks.

c) Birds must have access to well maintained litter and a well-drained area for resting (see Appendix C for litter quality assessments).

d) Producers should provide straw or hay bales (2 straw/hay bales per 1,000 birds) to stimulate bird activity. Bales should be located throughout the barn and should be replaced during the growing period as required. Bales should be made available to the chicks not later than 7 days of age.

e) In free-range systems, barns must be designed with evenly distributed popholes to allow easy access to and from pasture for all birds. Pop-holes should be at least 45cm high and 100cm wide and there must be at least 1 pop-hole per 600 birds. For barns with small flock sizes, smaller pop-holes are permitted, provided that birds can move in and out comfortably and that they can always see the range from inside the barn unobstructed by other birds.

3.2 Ventilation, Temperature and Air Quality

a) Birds must be provided with fresh air through effective ventilation programs and maintenance of house conditions, such that arial contaminants are not noticeably unpleasant to a human observer. Specifically, at bird head height, contaminants must be maintained below the following levels:

Ammonia	20ppm
Carbon Dioxide	5000ppm
Dust	10mg/m^3

Ammonia tests must be evaluated at bird height and recorded weekly. These records must be made available to the Validator. Gas-powered equipment must not be used near the barn's air inlets in order to prevent exhaust from entering the barn.

b) All birds must have access to a thermally comfortable environment at all times and daily maximum and minimum temperatures must be recorded for each barn. Particular attention should be paid to the temperature of the litter when introducing day old chicks to a new environment. The following temperatures based on the *Recommended Codes of Practice for the Care and Handling of Farm Animals: Chickens, Turkeys, and Breeders from Hatchery to Processing Plant (RCOP – Poultry)* must be ensured: brooding temperatures on the first day of life must be between 30ºC and 32ºC at the eye level of the chicks. Thereafter, the temperature should be lowered by 2-3ºC each week, down to between 21ºC and 23ºC at the age of six weeks, and thereafter must be maintained relatively steady between 20ºC and 25ºC.

Box #2: The behaviour of chickens can be used as an indicator of thermal comfort. Please refer to the discussion on page 11of the *RCOP – Poultry* for more information on behavioural signs of thermal discomfort.

3.3 Lighting

a) Minimum light intensity in directly lit areas should be approximately 20 lux, and must be above 15 lux during any light period. Light intensity must be below 0.5 lux at bird level during any dark period.
b) A method of adjusting light intensity should be available in order to facilitate animal control during chicken catching (see also 6.2).
c) Light intensity should be adjusted gradually to mimic dawn and dusk. Providing a 30 minute period of dim light (4 - 5 lux) at bird level just before lights are turned on or off will suffice.

> **Box #3:** It is strongly recommended to provide natural lighting either through outdoor runs, windows or skylights, unless an intermittent lighting program is in use.

d) At least 8 hours of light and 8 hours of darkness must be provided in a 24 hour period. An exception may be granted to producers using an approved intermittent lighting program to control mortalities due to metabolic disorders.

   A suitable program would consist of 1 hour of light followed by 3 hours of darkness repeated 6 times, 6(1L:3D), providing a total of 6 hours of light and 18 hours of darkness in a 24 hour period. Due to the shortened light period during an intermittent program, the use of a dawn/dusk program or natural light as described in 3.3c, are not required.
e) Lighting programs must be recorded and made available to the Validator during inspection.

3.4 Space Allowances

a) Adequate space must be provided to allow all birds to stretch, preen, flap wings and move freely.
b) Bird density must not exceed the following. See Appendix B for a conversion guide:

- 30 kg/m^2
  (6.2 lbs/ft^2 or 2.8 kg/ft^2)
  or
- 17 birds/m^2

c) Stocking density on pasture should not exceed the pasture's ability to maintain forage.

3.5 Free-range Environment

a) In free-range systems, outdoor range must be well drained and maintained, providing appropriate foraging opportunities for birds.
b) Outdoor range must provide access to shade and shelter sufficient for the entire flock.

c) Precautions must be taken to protect birds from all predation, including fencing and the provision of overhead cover to protect birds from avian predators.

d) Pasture must be managed according to environmentally sound practices and the British Columbia Ministry of Agriculture and Lands guidelines with regards to manure spreading, fertilizer application, and pesticide or herbicide use.

e) Weather permitting; birds in free-range systems must have access to the outdoors for at least 8 hours per day after 4 weeks of age unless the period of natural daylight is less or birds are ordered indoors by government officials for disease control purposes.

f) Free range producers must have adequate indoor housing conditions (i.e. space and ventilation) to keep their birds indoors throughout the production cycle if necessitated due to government orders for disease control.

3.6 Sanitation and Waste Management

a) An all-in/all-out system must be used to restock each flock, including all litter and enrichment bales used during the growing period.

b) Barns must be cleaned and disinfected before restocking.

c) Feed containers, water lines and litter must be clean and well maintained.

d) Cull birds, mortalities, and wet litter must be removed daily from all types of housing facilities (indoor and outdoor).

e) All poultry waste such as manure, litter and cull birds must be managed and disposed of in accordance with the *BC Code of Agricultural Practice for Waste Management* under *the Waste Management Act*.

4.0 HEALTH and BIOSECURITY

4.1 General

The health status of a flock is a significant factor in the welfare of the birds, and the development of a Flock Health Plan, as well as having an established relationship with a veterinarian, are critical for maintaining flock health and welfare. The main goals of a Flock Health Plan are to prevent disease and to minimize mortality, illness, and injury over time. As such, the principal components of the plan are:

- An initial plan that outlines the management practices that prevent potential disease and injury;
- Subsequent updates intended to strengthen the plan by addressing past health and welfare concerns;
- Attentive record keeping of flock health measures;
- Correspondence between the manager, their veterinarian, and the Certification Body on all significant health matters.

4.2 Flock Health Plan

a) All farms must establish a working relationship with a veterinarian who is familiar with the farm and is available as needed. It is recommended that this veterinarian have expertise in the species of animals on the farm.

b) A Flock Health Plan must be completed in writing, fully implemented by the farm manager and submitted to the Certification Body for review. Producers may develop their own Flock Health Plan if they wish; however, any plan must include all the information in the Flock Health Plan template provided by the Certification Body. It is recommended that the initial Flock Health Plan, as well as all subsequent updates, be made in consultation with a veterinarian.

c) The Flock Health Plan must be reviewed annually by the farm manager and any updates must be submitted to the Certification Body along with any supporting documentation (see also Box #4).

Box # 4: The Certification Body may request an update to the Flock Health Plan after a major health incident (e.g. disease outbreak, leg health problems, etc.) and/or when a significant change to the production system is made (e.g. introduction of new species to the farm, new strain of bird raised, facility changes, etc.)

4.3 Prevention of Disease and Injury

a) All reasonable efforts must be made to keep birds free of parasites and disease.

b) Flocks must be vaccinated as required by law and as appropriate to each farm.

c) Clear records must be kept of all vaccines, drugs and treatments bought and used.

d) Pharmaceutical products may only be used to treat specific illnesses or conditions.

e) Administration of pharmaceutical products to enhance growth or production is prohibited. The use of coccidiostats, probiotics, enzymes, and nutritive supplements is acceptable, provided they are used for health promotion and in accordance with all other sections of this standard. A list of any such feed supplements or additives used (other than vitamin/mineral mixes) must be presented to the Validator. (See Section 2.6, Box #1).

f) Lab testing, including blood sampling and/or necropsies, for various diseases and parasites may be required by the Certification Body. These records must be kept on farm and a copy must be sent to the Certification Body as part of the Flock Health Plan.

g) Beak and toe trimming are not generally performed in the production of broiler chickens in Canada. These practices are prohibited in SPCA Certified production. The use of spectacles or blinkers to prevent feather pecking is also prohibited. In the unlikely event of an outbreak of feather pecking or cannibalism, dimming the lights and/or adding a pecking enrichment, such as cabbages, to the environment may be beneficial

4.4 Monitoring Flock Health

a) Birds must be monitored twice daily according to the **Flock Assessment Protocol** (Appendix C). Injured or sick birds must be treated promptly or euthanized (see Section 8.1) and dead birds must be removed immediately and disposed of appropriately (see Section 6.2). If a problem with the barn environment is observed, it must be rectified immediately.

b) When recurrent or flock-wide problems are identified, a veterinarian must be consulted. Should mortality in a barn exceed 0.5% within a 24-hour period, a veterinary visit is required. Under these circumstances, a copy of the veterinarian's report must be made available to the Certification Body.

c) Incidence of mortality (and associated causes) must be recorded and provided to the Validator. Overall flock mortality rate (including mortalities and culls) must not exceed the maximum levels indicated in the table below.

Maximum flock mortality (including culls) using the equation 1 + (0.06 x slaughter age in days)[1]

Slaughter Age (days)	Maximum Flock Mortality (%)
28	**2.68**
35	**3.10**
42	**3.52**
49	**3.94**
56	**4.36**

If mortality rate exceeds these levels, steps must be taken to investigate and eliminate the causes. If maximum mortality rates are exceeded in two successive cycles, a veterinary visit is required and a copy of the veterinarian's report, including strategies to prevent or minimize recurrence, must be presented to the Certification Body.

[1] Basing maximum flock mortality on this equation accommodates increased mortality rates for flocks slaughtered at older ages.

d) Lameness assessments must be conducted weekly commencing at 28 days of age and until the end of production, as per the protocol described in Appendix C. Gait scoring records must be made available to the Validator. Birds with a gait score of 4 or 5 must be euthanized. Birds with a gait score of 3 must be euthanized unless they are within 7 days of market weight.

e) Lameness will be assessed by Validators using the gait scoring protocol described in Appendix C. This assessment will be conducted on birds that are at least 28 days of age. Gait scores must not exceed the following thresholds at time of inspection:

Gait Score	Maximum % Allowed
3	10
4	0.1
5	0

f) No more than 60% of the total mortality, including culls, should be due to lameness or leg abnormalities.

Total Flock Mortality Including culls (%)	Total Allowed Leg Abnormality (%)
2.5	1.5
3	1.8
3.5	2.1
4	2.4

Box #5: The use of slower growing broiler strains or strains selected for improved leg health is recommended in order to minimize lameness incidence.

4.5 Biosecurity

a) Farms must have a biosecurity plan to minimize the risk of introducing disease to the flock. The plan should be developed using an industry-approved program, such as the BC Poultry Biosecurity Program, or a program developed by an accredited third party certified organic association.

b) Appropriate feet dips or dedicated footwear, and disinfectants for washing hands, must be accessible at each barn to avoid cross-contamination, especially if different breeds, species, ages or sources of poultry are located on the same site.

c) All guests, personnel, and Validators must sign a visitor log-book, are prohibited from visiting more than one poultry farm on the same day and should wear appropriate footwear and clothing (*e.g.* plastic booties or disinfected rubber boots, clean cover-alls, *etc.*) and follow protocols described in the biosecurity plan.

d) Barn orientation, barn spacing and ventilation systems must be designed to avoid contaminating one barn with the exhaust from another.

4.6 On-Farm HACCP Program

a) An On-Farm Food Safety Assurance Program (OFFSAP) based on HACCP (Hazard Analysis Critical Control Points) principles has been developed by the Chicken Farmers of Canada. Producers should familiarize themselves with the OFFSAP manual, *Safe, Safer, Safest* and implement a HACCP plan in accordance with this program. The seven principles of HACCP[2] are:

1. Conduct a hazard analysis. Identify the hazards and prepare a list of steps in the process where significant hazards occur and describe the preventive measures.
2. Identify the Critical Control Points (CCPs) – the points or steps – in the production process that can be controlled to prevent, eliminate or reduce the hazards.
3. Establish the critical limits, which must be met to ensure that the CCP is under control.
4. Establish a system of regularly scheduled observations or tests to monitor each CCP.
5. Establish corrective action to be taken when monitoring indicates that a particular CCP is not under control.
6. Establish procedures for verifying that the HACCP system is working correctly.
7. Establish effective record keeping procedures that document the HACCP system.

The keys to a food safety program are:

1. A thorough knowledge of the hazards and risks present on our farms.
2. A good understanding of the Good Management Practices (GMPs) recommended for the commodity and type of operation.
3. An effective plan, tailored to each operation.

[2] From "An Introduction to On-Farm Safety Practices," Agriculture and Agri-Food Canada, 1999.

5.0 MANAGEMENT

5.1 General

a) All farm records must be kept up to date. See Appendix A for a list of all record keeping requirements.

b) All equipment used to raise and handle chickens for the SPCA Certified program must be approved under the Program (*e.g.* automated chicken catchers, on-site slaughter equipment).

Box #6: Recognizing that biotechnology may have positive and negative impacts on animal welfare and agriculture, the BC SPCA will approve or reject individual technologies once sufficient testing has occurred.

5.2 Management of Replacement Animals

a) All birds must come from a source certified under the SPCA Certified program. (See Box #7).

Box #7: At this time, Standards have not been developed for breeding facilities or hatcheries. Until Standards have been developed for these facilities, replacement chicks need not be from a source approved by the Program, with the understanding that approved hatcheries will be required in the future.

b) Each flock must be of a single **type***. If different types of birds are used, each type must be isolated from the other with appropriate biosecurity measures.

***type**: species and age

5.3 Staff

a) All staff with responsibility for the flock must have access to a copy of and be familiar with the *SPCA Certified Standards for the Raising and Handling of Broiler Chickens* and the *Recommended Codes of Practice for the Care and Handling of Farm Animals: Chickens, Turkeys, and Breeders from Hatchery to Processing Plant.*

b) All farm staff must be knowledgeable of the normal and abnormal behaviours, common diseases, and biological and behavioural needs of chickens, as well as appropriate management techniques, and skills in handling chickens and performing common procedures.

c) An on-farm training program must equip farm staff with knowledge and skills essential to perform their job and provide access to new information on animal husbandry methods and welfare issues.

5.4 Equipment and Emergency Preparedness

a) All equipment and facilities should be inspected regularly and any defect or malfunction corrected in a timely manner.

b) **Emergency back-up systems*** **and plans**** must be maintained up to date and tested regularly, especially for ventilation, feeding and watering equipment.

c) All fire prevention and detection devices and plans must be maintained up to date and tested regularly.

d) Emergency provisions for suitable drinking water and feed must be available in case of natural disaster, *etc*.

e) Regular maintenance of waste storage facilities is essential to prevent groundwater, stream contamination and other such environmental disasters in the event of flooding.

* **Emergency back-up systems**: back up generators, and any other equipment used in the event of a power failure.
Emergency back-up plans: procedures to be followed in the event of a disaster, power or other mechanical failure.

5.5 Pests and Predators

a) Humane methods of pest control must be used.

b) Proper management techniques must be used to control fly populations in indoor and outdoor settings.

c) Biological and physical methods of fly control are encouraged wherever possible (e.g. parasitic wasps, provision of swallow and bat nests).

d) Poultry must be protected from predators and rodents in barn and in pasture. Prevention of rodent and wild bird access to barns is imperative both for animal safety and biosecurity.

Box #8: Humane methods of pest control include devices or systems that minimize suffering and/or cause a quick death. Methods of pest control that prolong suffering (starvation, hypothermia, or excessive discomfort) are unacceptable as are those that endanger non-pest animals. Glue boards for controlling rodent populations are strictly prohibited.

6.0 TRANSPORT and HANDLING

6.1 General

All personnel involved in transport and handling of animals are expected to adhere to:

i. The SPCA Certified Standards for the Raising and Handling of Broiler Chickens.

ii. Standard Operating Procedure and Emergency Protocol approved by the Certification Body.

iii. The federal *Health of Animals Act*, which regulates humane handling and transport of animals.

iv. The *Recommended Codes of Practice for the Care and Handling of Farm Animals – Transportation*, published by the Canadian Agri-Food Research Council.

Producers, catchers, and haulers must have access to and be familiar with each of these documents.

6.2 Catching

a) Birds visibly sick or injured before or during loading must not be transported, but humanely euthanized immediately (see Section 8.1).

b) Barn lights must be dimmed as much as possible consistent with catchers being able to see the birds to catch (e.g. 0.5 lux) and to reduce fear and associated behaviours among the birds. If light intensity cannot be reduced, catching must be conducted after dark.

c) Catchers must move among the birds in a manner that prevents crowding or piling. If birds become crowded or piled, catching procedures must be stopped and lighting intensity should increase until the birds calm and spread out in the barn. The use of temporary partitions may help to avoid crowding or piling.

d) Water must be made available to birds until the time of catching. Food must not be withdrawn for longer than 5 hours prior to catching.

e) Birds must be collected and handled with care and in a manner that imposes the minimum possible stress on the birds. Birds must be carried in one of the following manners:

   i. Acceptable: Hold the bird upside-down by both legs.

   ii. Preferred: Hold the bird upright with one hand supporting the bird's breast and with the bird's legs between the 1st and 2nd and 2nd and 3rd fingers and the other hand on the birds back preventing its wings from flapping.

f) When birds are carried by the legs, catchers must not carry more than three birds per hand. Every effort should be made to minimize the duration of the time the bird is held upside-down. For this reason, birds must be placed in transport trays/crates inside the broiler house and trays/crates should be placed as close as possible to the birds.

Box #9: The use of mechanical chicken catchers has demonstrated some welfare advantages over the manual catching of birds. Accordingly, program members are encouraged to use mechanical catchers that have been approved by the Certification Body and to ensure that crews receive adequate training for correct use.

g) Managers must ensure that chicken catchers are adequately trained and are provided with explicit instructions for catching according to these standards. Care in catching must not be sacrificed for speed of performing the job. For this reason, it is beneficial for chicken catchers to be paid on an hourly rate rather than a on a per-barn or per-bird basis.

> **Box #10:** At this time, training of new catchers by experienced catchers will be adequate. However, a certificate from an approved training program may be required in the future.

h) Loading density must not exceed:
   - 57 kg/m^2 (351cm^2 per 2 kg bird); or
   - 20 birds per standard transport tray that measures 1.11 m by 0.71 m

6.3 Transport

a) Birds must be transported by BC SPCA approved haulers (see Box #11). BC SPCA approved haulers will hold certification for poultry transport by an approved training course.

> **Box #11:** The program recognizes the difficulty in finding approved haulers and processors. This requirement will be phased in according to timelines to be developed by the Certification Body. At this time producers must ensure that catchers and haulers handle animals according to the standards and do their best to ensure responsible transportation, understanding that approved haulers and processors will be required in the future.

b) Haulers must submit a Standard Operating Procedure and Emergency Protocol for transportation to the Certification Body for approval.

c) Birds must be taken directly to a BC SPCA approved processing plant (see Box #11) and catching and loading must be timed to minimize time in transport and time to slaughter.

d) The time from the beginning of catching to the end of slaughter must be no longer than 12 hours, and should preferably be no longer than 8 hours.

e) During hot weather (> 25°C), birds must be transported at night, during the coolest part of the day, or at 20% lower density than usual (no more than 50kg/m^2).

f) Appropriate measures must be taken to shelter birds from unfavourable environmental conditions (i.e. excessive wind, rain, heat or cold) during transport and before slaughter.

g) If vehicles are required to remain stationary for substantial periods of time during hot weather, they should be parked in the shade. If possible, fans should be used to ensure adequate ventilation and to avoid heat stress.

h) Precautions must be made to minimize noise levels from personnel or equipment during the catching, loading, unloading, and transport process.

i) The individual supervising the transport process must make every effort to minimize the time from catching to slaughter. This includes careful trip planning to avoid traffic delays and coordination with abattoir personnel to ensure that unloading and lairage times are minimized.

j) All deaths and injuries occurring during catching, loading and transport must be recorded. A copy of this record must be kept on farm and made available to the program Validator. Haulers must take prompt corrective action to prevent identified causes of mortality.

k) Incidence of dead-on-arrivals (DOA's) from any single source farm greater than an average of 0.2% over the year, accounting for seasonal variability, must be reported to the Certification Body and will be subject to investigation by the Program.

l) The use of actively ventilated transport vehicles and on-board equipment for monitoring temperature/humidity is strongly recommended.

Box #12: Standards for the slaughter of chickens are currently being developed by the SPCA Certified Program.

7.0 EUTHANASIA

7.1 Euthanasia of Cull Birds

Acceptable methods of on-site humane euthanasia are:

i. Cervical dislocation;
ii. Hand held electrical stunning, immediately followed by severing of the carotid arteries;
iii. Controlled atmosphere stunning with an inert gas, such as argon or nitrogen, alone or as a mixture or mixed with no more than 30% CO_2 by volume.

7.2 Chick Euthanasia

a) Non-saleable live chicks must be treated as humanely as those to be sold.
b) A trained, competent, approved operator must euthanize chicks.
c) Death by drowning, suffocation by piling chicks in disposal containers, vehicle exhaust gas, chloroform, ether, cyanide, thermal exhaustion, or any other method resulting in inhumane death is not acceptable.
d) Acceptable methods of live chick euthanasia as described in the *Recommended Codes of Practice for the Care and Handling of Farm Animals: Chickens, Turkeys, and Breeders from Hatchery to Processing Plant* (section 1.7) are:
    i. The use of atmosphere stunning with an inert gas, such as argon or nitrogen, used alone or as a mixture or mixed with CO_2. Containers or chambers used must be charged with high concentrations of gas(es) before chicks are introduced. Chicks must be put into the containers or chambers loosely to allow penetration of gas(es). Containers or chambers must be designed to allow continual gas refilling to maintain correct concentrations of gas(es). Chicks must be exposed to the gas for a long enough time to cause death or a state of unconsciousness that does not permit recovery.
    ii. Decapitation or cervical dislocation, for small numbers of birds, when performed by competent personnel.
    iii. High-speed maceration, when properly designed and constructed macerators are used that ensure instantaneous death of every chick. Macerator blades should operate at not less than 6000 revolutions per minute. Chicks must be delivered to the macerator in a way that prevents a backlog of chicks at the point of entry without causing injury or avoidable distress to the chicks before maceration.

8.0 REFERENCE MATERIALS

The following Publications can be obtained from national commodity groups and/or specialized provincial organizations:

Recommended Codes of Practice for the Care and Handling of Farm Animals: Chickens, Turkeys, and Breeders from Hatchery to Processing Plant (2003) and CARC Transport Code (2001)

Developed and updated by Canadian Agri-Food Research Council.
CARC
Building 60, Heritage House, Central Experiment Farm, Ottawa, ON K1A 0C6
Phone: 613-234-2325
Fax: 613-234-2330
Can also be obtained from national commodity groups and/or specialized provincial organizations.
Visit website: www.nfacc.ca for more information.

Health of Animals Act

Available through Canadian Food Inspection Agency (CFIA)
Online at: www.cfia-acia.agr.ca

Environmental Guidelines for Poultry Producers
(Code of Agricultural Practice for Waste Management is contained within above guidelines**)** and
BC Agricultural Composting Handbook

Order forms available from BC MAFF Resource Management Branch
1767 Angus Campbell Road, Abbotsford, BC V3G 2M3
Phone: 604-556-3100
Fax: 604-556-309

Chicken Farmers of Canada – On-Farm Food Safety Program

Application forms available from BC Chicken Growers Association
P.O. Box 581 Abbotsford, BC V2S 6R7
Phone: 604-859-9332
Fax: 604-853-4808

BC Certified Organic Production Operation Policies and Farm Management Standards

Paper copies of the standards are available from COABC Office:
202-3002 32nd Ave, Vernon, BC, Canada V1T 2L7
Phone: 250 260-4429
Fax. 250 260-4436
E-mail: office@certifiedorganic.bc.ca
Copies may also be obtained by contacting local member associations or
Online at: http://www.certifiedorganic.bc.ca/standards/index.htm

Also consulted were:

RSPCA Freedom Food - Welfare standards for chickens (2008)
Wilberforce Way,
Southwater,
Horsham,
West Sussex,
RH13 9RS
Telephone 0870 010 1181
www.rspca.org.uk

California Poultry Workgroup – Animal Care Series: Broiler Care Practices, Second Ed. (1998)
School of Veterinary Medicine
University of California, Davis
One Shields Avenue
Davis, CA 95616
USA
http://www.vetmed.ucdavis.edu/vetext/INF-AN.HTML

Appendix A

1. All Flock Records must illustrate:

    a) The **Farm System Design Plan***

    b) The **Flock Health Plan**

    c) A complete audit trail from farm to final sale, including transportation and slaughter

    d) Sources of all purchases and sales of birds

    e) Health care records and mortalities (number and cause)

    f) Condemnation and dead-on-arrival records from the processor

    g) Breed and number of all animals

    h) Feed suppliers, feed ingredients and supplement records

    i) Year-end inventories of birds

    j) Regular air quality measurements

    k) Daily maximum and minimum barn temperatures

    l) Vaccine and medication inventories and purchases. Receipts may be adequate.

    *A **Farm System Design Plan** is a map of the farm illustrating all areas (indoor and outdoor), exits, emergency equipment, and evacuation routes for workers.

2. A notice containing the following information must be displayed and made available to the Program Validators/Auditors at or near the entrance to all buildings housing farm animals:

    a) Total floor area

    b) Total number of birds

    c) Total number of drinkers and feeders

    d) Lighting levels and programs

Using the record-keeping forms that are provided with this manual is optional. It is acceptable to use the Quality Assurance forms provided with HACCP Guides and/or any record keeping forms that have already been developed for the operation. Applicants that do not have a consistent record keeping system are encouraged to use and implement the Certification Program forms upon receiving them in the application package.

Upon obtaining certification, Members will be expected to retain all records between one Annual Assessment and the next (minimum one year).

Appendix B

Space Allowance Conversion Guidelines for Broiler Chickens

Weight		Floor Space	
Kg	lb	birds/m²	ft²/bird
1.7	3.8	18	0.85
2	4.4	15	1.00
2.4	5.3	12	1.20
3.0	6.6	10	1.50

Appendix C

Flock Assessment Protocol

1. Flock inspections must be done twice daily (once in the morning and then again in the afternoon). Inspections should be done four times daily for the first five days following chick placement.
2. Flock inspections must assess the following and must be documented once daily:
    a. Flock Health (incidence of disease symptoms and injuries such as pendulous crop, ascites, breast blisters, skin burns, cellulites, and lameness). Sick or lame birds must be humanely euthanised. If a problem is observed, it must be rectified immediately.
    b. Litter condition (dry, moist, wet, clumping, *etc*.). Litter must be replaced as needed to maintain litter quality.

Litter Quality	Description
Acceptable	Litter should loosely pack together when compressed
Poor – Wet	Litter easily packs together when compressed
Poor – Dry	Litter will not pack together when compressed

    c. Air quality - adjust ventilation rates as required.
    d. Environmental temperature - appropriate for the age of the bird, check for signs of heat /cold stress – adjust temperature as required.
    e. Lighting program – Lighting program functioning, all lights are on when they should be.
    f. Feed supply – Feed must be available at all times.
    g. Water lines – Check to ensure water is available and that there are no leaks in the lines.
    h. Mortalities collected and disposed in an appropriate manner.
3. Stockpersons must move within 3 meters of every bird, encourage the bird to move to allow for the identification of sick or injured birds. Any problems found must be identified and documented along with what action was taken.
4. Records of inspection must include the observations of any problems and what was done to correct it. These records should be made available to the Validator upon inspection of the facility.
5. In addition to the daily inspections cited above, weekly lameness assessments must be performed commencing at 28 days of age and must continue until end of production, as per the following protocol:

    A total of 100 birds must be gait scored from at least two different locations within the barn. Any birds that demonstrate a gait score of 3 or greater must be culled humanely and noted on the mortality sheet. This also provides an opportunity for simultaneous assessment of litter quality in each location.

Leg Health Assessment[3]:

Gait Score	Degree of Impairment	Description
0	None	Normal, foot curls when the bird picks it up. Gait is smooth with even steps. Bird is well balanced and capable of running and quick turns.
1	Detectable but unidentifiable abnormality	Gait is uneven at times; foot may or may not curl when the bird picks it up. Difficult to identify location of lameness.
2	Identifiable abnormality, that has little impact on overall function	Gait is uneven; foot does not curl when the bird picks it up. Source of lameness is readily identified. Bird as an irregular, shortened stride. Bird also has poor balance and may occasionally be seen using its wing(s) to help balance itself while walking. Bird will remain in a standing position for longer than 15 s when undisturbed.
3	Identifiable abnormality which impairs function	Similar to gait score of 2, but the bird will remain lying down unless forced to move (gentle nudging by observer). When the bird does move, it typically uses its wings for balance while walking. The bird will lie down after several steps. Easy to determine the source of lameness. Bird will not stand for longer than 15 s when undisturbed but will stand within 5 s of being encouraged (gentle nudging).
4	Severe impairment of function, but still capable of walking	Bird is reluctant to move and only moves when it is forced to (nudging by observer). Birds will use its wings to help it move by "wing-walking": wings will extend to the ground (act like a crutch to help the bird move). Bird will only take a few steps and then lie down again before attempting to move. Source of pain is evident. Bird will not stand on both feet within 5 s of being encouraged (gentle nudging).
5	Complete lameness	Bird is unable to move or will shuffle on the ground if it is forced to move. Bird is not capable of taking one step. Source of lameness is easy to identify.

[3] J.P. Garner *et. al*. 2002. British Poultry Science. 43:355-363.

Appendix D

Conversion Table

Multiply an imperial number by the conversion factor shown to get its equivalent in metric units.

Divide a metric number by the conversion factor shown to gets its equivalent in imperial units.

Imperial Units	Approximate conversion factor	Metric Units
Length		
inch	25	millimetre (mm)
foot	30	centimetre (cm)
yard	0.9	metre (m)
mile	1.6	kilometre (km)
Area		
square inch	6.5	square centimetre (cm^2)
square foot	0.09	square metre (m^2)
square yard	0.836	square metre (m^2)
square mile	259	hectare (ha)
acre	0.4	hectare (ha)
Volume		
cubic inch	16	cubic centimetre (cm^3, mL, cc)
cubic foot	28	cubic decimetre (dm^3)
cubic yard	0.57	cubic metre (m^3)
fluid ounce	28	millilitre (mL)
pint	0.57	litre (L)
quart	1.1	litre (L)
gallon (Imp.)	4.5	litre (L)
gallon (U.S.)	3.8	litre (L)
Weight		
ounce	28	gram (g)
pound	0.45	kilogram (kg)
short ton (2000 lb)	0.9	tonne (t)