

ANIMAL WELFARE ON ORGANIC FARMS

GUIDANCE FOR ORGANIC POULTRY PRODUCTION

The ECOA Animal Welfare Task Force has reviewed the Canadian standards for organic production (CAN/CGSB 32.310-2006 Organic Production Systems General Principles and Management Standards) and has provided additional guidance for optimal bird welfare in the context of the standard. The information provided is based on best management practices outlined in various animal welfare standards and in published research on organic systems of poultry production, and poultry behaviour and welfare.

The numbering refers to the specific paragraph numbers in the 2008 amended version of CAN/CGSB 32.310-2006.

6. LIVESTOCK PRODUCTION

6.1 General

6.1.3 This standard requires that organic livestock production be a land related activity stating that herbivores shall have access to pasture and all animals (including poultry) shall have access to open-air runs when weather conditions permit.

Guidance 6.1.3

The size of the production unit should take into consideration the availability of land for outdoor access and potential for environmental pollution, as well as the availability of good quality organic material for bedding.

6.2 Origin of Livestock

6.2.1 requires that the choice of breeds be consistent with the principles of the standards taking into account adaption to local conditions and resistance to disease.

Guidance 6.2.1

Producers are encouraged to utilize strains of poultry that have been selected for alternative systems. Specifically, producers are encouraged to source birds selected for:

- their ability to cope with environmental fluctuations;
- a well developed immune system;
- a low occurrence of injurious behaviours such as feather pecking and cannibalism;
- good conformation and skeletal development; and

- a growth rate suited to their particular market (for example, if the customer is looking for a slower growing bird, then select a bird that has been developed to grow more slowly rather than use a quick growing bird and feed restrict it).^{1, 2,3, 9}

Rationale: Most of the commercially available birds have been selected for controlled environment housing and are not designed for an outdoor environment. Heritage breeds or modern hybrids (such as the Hubbard Colour line) that have been designed for alternative systems, are more hardy and are less adversely affected by environmental fluctuations, have better immune systems, better skeletal systems, and do not usually have any of the physiological or metabolic problems that can be seen in commercial birds. If producers are switching their flocks to heritage birds, they should pay attention to the specific traits the heritage line was selected for and take care that the breeding stock they select has been maintained for their meat, eggs or dual purpose traits, and not just show-ring characteristics.^{1, 2, 9}

6.4 Livestock Feed

6.4.1 & 6.4.2 require that the operator of an organic livestock operation provide livestock with an organic feed ration balanced to meet their nutritional requirements, and that the ration be made up of substances that are necessary and essential for maintaining the animals' health, well-being and vitality while meeting the physiological and behavioural needs of the species in question. Paragraph 6.4.3 specifically mentions the need for grains in the fattening phase and vegetable matter in the daily ration.

Suggest addition to the standard: All poultry, including breeding birds, should be fed daily.

Rationale: Commercial broiler breeders are severely feed restricted to prevent health and reproductive problems; however, this high level of feed restriction results in birds being constantly hungry. Behavioural tests have illustrated high levels of frustration at not being able to eat. At the farm level, this is seen as hyperactivity, repeated pecking (for example at feeders) and overdrinking. Other strategies to deal with this strong motivation to feed are twice daily feeding and/or using scatter feeders. By scattering the feed in the litter, the need to forage helps to reduce the frustration associated with feed restriction by redirecting the birds' behaviour.¹⁰ Other strategies that could be employed to reduce feeding frustration is the use of diets with a high cereal content (which results in a diet lower in protein)⁸, or diets higher in fiber content^{1,11}.

Guidance: All market animals should be fed ad libitum.

Guidance 6.4.3

Providing poultry with green matter (young plants and/or trimmed mature plants in a pasture) can reduce the amount of supplemental vitamins and minerals in the mixed feed, provide gut fill if poultry needs to be feed restricted, and can be used as an enrichment device.

Rationale: Poultry are able to utilize anywhere from 10-20% of their diet from green matter (fresh, dried, or ensiled) depending on age, type of plant material and type of bird. Green matter can be a rich source of vitamins (except vitamin D) and minerals for poultry.^{4,5,6,8,17}

Providing green matter as an enrichment aid has been shown to help in decreasing or preventing feather pecking^{1,5,6,9}.

On-farm trials in the UK showed that a pasture mix of ryegrass (70%), meadow grass (10%), white clover (10%), timothy (5%) and brown top bent (5%) proved to be robust for use by poultry.¹² In addition to green material, birds also consume herbs, roots, stems and invertebrates¹³.

Guidance: Feeder and drinker space should be provided to reduce competition and aggressive encounters which could result in injury. Recommended minimums:

Broiler Breeders	
Feed space	Pans: 12-16 birds/pan
	Troughs: 10 linear cm (4") per bird
Water space	Up to 50 chicks/cup with drinkers progressively increased to 25 birds/cup at 20 weeks
• Fountains/cups	
• Nipples	Up to 20 birds/nipple with drinkers progressively increased to 10 birds/nipples at 20 weeks
• Bell drinkers	Up to 100 birds/bell
Broilers	
Feeders	Pans: 70 birds per pan
	Troughs: 5 cm (2 in.) per bird
Water space	
• troughs/cups	2.5 cm (1 in.) per bird
• bell drinkers	Bell drinkers: 1 per 120 birds
• nipples	5-20 birds per nipple
Layer Breeders	
Feed space	Pans: 70 birds/pan
	Troughs: 5 linear cm (2") per bird

Water space	
• Fountains/cups	2.5 linear cm/bird (1")
• Nipples	5 -20 birds/nipple
• Bell drinkers	Up to 120 birds/bell

Layers - Feeder Space				
Age (weeks)	Maximum body weight (g)	Feed Trough/bird (cm) ¹	Birds per standard round feeder	
0-6	400	1.2 - 1.4	40 - 60	
6-12	950	2.0 - 2.5	30 - 40	
12-18/19	1320	3.0 - 3.5	20 - 30	
Light layer	1700	4.0 - 5.0	20 - 30	
Medium layer	1900	4.0 - 5.0	20 - 30	
¹ note that open trough provides access at both sides. Feeder space available is therefore double the feed trough.				
Layers - Water Space:				
Age (weeks)	Maximum body weight (g)	Water Trough (cm) ¹	Birds per nipple or cup	Birds/Standard Round Waterer
0-6	400	1.5 - 2.0	15 – 20	100 – 150
6-12	950	2.0 - 4.0	10 – 15	75 – 100
12-18/19	1320	3.0 – 4.0	6 – 10	50 – 75
Light layer	1700	3.0 - 4.0	6 – 10	50 – 75
Medium layer	1900	3.0 - 4.0	6 – 10	50 – 75
¹ note that open trough provides access at both sides; a 1m trough therefore provides 2m of drinking space				

Turkeys:
 Feeders: a minimum of 30mm feeding space per bird is recommended where troughs are used.

Waterers: Bell – 1 per 100 turkeys
 Nipple – 1 per 10 turkeys
 Cup – 1 per 28 turkeys

Guidance:
 Temperature of drinking water should not exceed 30°C (86°F)

Guidance:
 Producers are encouraged not to feed birds a commercial diet outdoors in open feed troughs unless the feeding area is netted or covered to reduce the risk of contact with wild birds.

6.5 Breeding

This standard allows the use of artificial insemination but recommends natural methods of reproduction.

Guidance 6.5

Producers should source turkeys capable of naturally mating.

Rationale: Almost all commercial turkeys are artificially inseminated because they cannot physically mate due to the size of the breast muscles.

6.6 Transport and Handling

This section requires that stress, injury and suffering be minimized in all handling and transportation of livestock.

Guidance 6.6

To facilitate easier catching: 1) birds should be caught during the dark period or in pens where the light intensity has been lowered. Blue lights have also been shown to be effective in providing catching crews with the necessary light to see, but not to disturb the birds. 2) Birds should be corralled with a net or screen.

Maximum densities per crate or bin vary with the size of bird and the existing weather conditions. All birds in a crate or bin should be able to rest on the floor at the same time. Birds should be able to move their heads freely when sitting on the floor.

Recommended maximum transportation densities for chicken are: 57 kg/m² of tray or crate floor area in hot weather, and 63 kg/m² in cold weather.

When temperatures exceed 32°C (90°F), birds should not be loaded unless they will be processed the same day.

Feed withdrawal times: Birds should have feed removed a maximum of 10 hours prior to evisceration. Water should be provided up to point of catching.

6.7 Livestock Health Care

Paragraph 6.7.2 prohibits physical alterations except when absolutely necessary. Beak trimming and de-toeing of birds are only allowed to control behaviour that negatively impacts the welfare of other birds and measures must be taken to control or eliminate the behaviour.

Guidance 6.7.2

Caponization is not recommended because the process negatively affects animal welfare.

Guidance 6.7.2 a

Several factors have been shown to influence the risk of outbreaks of injurious feather pecking. To minimize the risk of outbreaks, producers are encouraged to:

- Use birds who typically do not feather peck and are able to cope with challenges to their environment;
- Aim for as much uniformity in bird size as possible (a minimum of 80% of the birds should fall within the target weight);
- If pullets are being reared in a house that is different than their laying house, the rearing house should mimic the laying house as much as possible;
- Care should be taken when moving pullets to the new house, and in the transition to the new living area and the use of nest boxes;
- Where possible, changes in ration composition and form should be implemented gradually over a couple of days;
- Maintain good litter quality, so that birds are able to utilize the litter as a source of enrichment and for dust-bathing.

The AWTF factsheet "[Reducing the Risk of Feather Pecking for Laying Hens](#)" provides further guidance.

6.8 Livestock Living Conditions

Paragraph 6.8.1 requires the operator of an organic livestock operation to establish and maintain animal living-conditions that accommodate the health and natural behaviour of all animals. This includes access to the outdoors, shade, shelter, rotational pasture, exercise areas, fresh air and natural daylight suitable to the species, its stage of production, the climate and the environment.

Guidance 6.8.1

Systems can be mobile in nature or stationary. Mobile units should be moved frequently to help decrease the risk of parasite or disease transmission, and to ensure the land does not become poached or compromised in any way.

Producers with stationary systems are encouraged to create a buffer system between the stationary barn and the outdoor paddock. Buffer zones can take several forms from covered porches to concrete areas that can be cleaned.

These areas help reduce nutrient loading in the area directly around the house as well as help to keep excess dirt from soiling the indoor facilities.

Typically, the area within 20 meters of the feeder sees the highest traffic

from the birds and poses the greatest risk for accumulation of nutrients and destruction of land.¹⁵

Poultry need access to the outdoors as early as possible to facilitate greater use of the outdoor range area. To encourage range use, producers should provide shade and shelter, by either natural means (e.g. shrubs, small trees etc.) or artificial means (e.g. constructed shades) throughout the outdoor area including within close proximity to the exit points.

Pop holes to the outdoor area should measure at a minimum of 45cm x 100cm for chickens to minimize dominant hens from guarding access to the outdoors.

In addition there must be sufficient space and freedom to lie down in full lateral recumbency, stand up, stretch their limbs and turn freely, and express normal patterns of behaviour; as well as space allowances appropriate to local conditions, feed production capacity, livestock health, nutrient balance of livestock and soils, and environmental impact.

Guidance 6.8.1d

Outdoor stocking densities and the group size should be balanced with soil type, the productivity of the land, the environmental impact, and health and welfare of the animal.⁸

There must be appropriate resting and bedding areas in accordance with the needs of the animal. The floor must not be entirely of slatted or grid construction and must be covered with a thick layer of dry bedding that can absorb excrement.

Guidance 6.8.1f

Perches: Birds should be provided with roosts or perching areas. Chickens and turkeys prefer to sleep on roosts/perches, and they also promote activity and bone strength.

In order promote use, roosts/perches should be included as early in the rearing period as possible (by 10 days is recommended). Producers should position perches in areas of the rearing area that do not cause problems with fecal accumulation and litter management.

Guidelines for perch construction: Perch design can take many forms, but should be raised off of the ground, and care should be given to ensure that perches do not adversely effect bone development (feet, legs and keel specifically). Chickens should be provided with 18cm/bird and turkeys with 40cm/bird.

Guidance 6.8.1g

Litter: Birds should have dry litter throughout their life to minimize the occurrence of hock burns, foot pad lesions and breast blisters. The design

and lay out of poultry pens (position of heater, number of drinkers, provision of roosts, placement of pop holes etc.), stocking density, bird health, ventilation systems, and how seasonal differences are accounted for within the pen design (for example, to reduce drafts or cool the birds) are all factors that influence the condition of the litter. The condition of the litter is directly correlated to air quality which is an important welfare consideration for both the stockperson and the birds. Research has shown that poor air quality can lead to eye and respiratory problems in birds and poor litter condition has a direct effect on the incidence of foot pad lesions, hock lesions and breast blisters. Foot pad problems can sometimes go unnoticed because both feet can be affected, so abnormal gaits aren't spotted.

In addition to the areas listed above, poor litter condition can also be influenced by the type of feed provided. Feed with high levels of protein can result in an increase in uric acid excretion and wetter feces. Litter condition can decrease dramatically under this situation and increased foot, hock and breast lesions can be found. In addition, ammonia levels also increase creating poorer air quality conditions.

Paragraph 6.8.11 states poultry living conditions must accommodate their health and natural behaviour which includes rearing poultry in open range conditions with free access to pasture, open-air runs, waterways and other exercise areas subject to the species, weather, parasites, predators and ground conditions. 6.8.2 clarifies that temporary confinement can be allowed to maintain the well being of the livestock given the stage of production.

Guidance 6.8.11.1 & 6.8.2

Birds should be provided with outdoor access when their feather cover and/or outdoor conditions enable them to adequately thermoregulate. For meat birds this is usually around 3-4 weeks of age, but some variability exists with breed, strain and environmental conditions. For laying hens, outdoor access should be provided no later than 12 weeks of age to facilitate use of the outdoor area.

Paragraph 6.8.4 requires cleaning and disinfecting of housing, pens, runs and equipment to prevent infections and build up of disease organisms.

Guidance 6.8.4

Producers should monitor their flocks to determine what internal and external parasites exist on their farm. This can be done through monitoring fecal samples and observing the birds directly (for mites, for example). Rotational schedules can then be determined by taking into consideration the lifecycle of the parasites, with the soil type, plant growth, and any other relevant farm information to determine the optimal rotational schedule. Additionally, producers should keep the pasture clipped, and harrow and remove the most

used areas of the land if a stationary house is used. It is also recommended to rest the land once every two-three years to reduce parasites that may utilize an intermediary host (such as snails), as well as to rest the land.^{14, 16}

Paragraph 6.8.11.4 specifically addresses the cleaning and disinfecting of poultry buildings and requires that runs be left empty for a period of time to allow the vegetation to grow back between flocks.

Guidance 6.8.4, 6.8.11

Incorporating poultry into a diversified farming rotation can reduce parasite problems. Rotations should follow a cycle such as: beef/sheep → poultry → sheep → pigs → reseed/plant arable. If poultry are not part of a diversified farm, then poultry should be rotated so that they return to the same piece of land only every two-three years. Producers should monitor their flocks for parasites and other health related problems and adjust time outdoors and/or on pasture accordingly to disrupt the lifecycle of the problem.

Areas not covered in the standard that should be covered at the very least in the guidance document:

1) Guidance - Placement of chicks:

- Chicks and poults should be placed within 24 hours of hatching.
- Barns receiving chicks should be warmed to between 29 to 32°C (84 to 90 °F) at chick level prior to arrival. This temperature should be maintained for the first week, and then lowered 2 to 3°C (4 to 6°F) each week to approximately 21-23 °C (70 to 75°F) at the age of 6 weeks. Optimal temperatures for chickens older than 6 weeks are between 10 to 27°C (50 to 80°F).
- Various strains of chickens can vary in their optimum temperature requirements. For this reasons, the behaviour of chickens in a pen or brooding area can be used as a reliable indicator of their thermal comfort. Ideally, chicks or baby poults should be evenly distributed around the heat source. If chicks or baby poults are found around the edge of the brooding area then the temperature is probably too warm. Alternatively, if the chicks or baby poults are found huddled together or huddled into a corner, then your brooding area is too cold or draughty.
- Feed and water should be provided within the brooding area to ensure easy access to feed. Ensuring chicks and poults have an optimal brooding environment and access to clean feed and water is critical to the initiation and development of proper digestion and immunity¹⁸.

2) Guidance - Nest Boxes: On average, there should be 1 nest box for every 4-5 hens, or a minimum of 120cm²/bird in communal nests for laying hens.⁹

3) Guidance - Dust-baths: Poultry dust-bathe to help maintain their feather condition and integrity. Poultry will often choose their own dust-bathing location - such as in litter in a sun-beam or in drier parts of an outdoor paddock/pasture, or simply in the litter – however, they prefer to dust-bathe in finer substrate such as sand or peat moss.⁹

4) Guidance –Lighting:

Poultry should be provided with natural light. When artificial light is provided, a minimum of 20 lux should be provided, and for no longer than 16 hours continuously.

Poultry should be provided with a dark period from day 1. Ideally this dark period should provide 6-8 hours of continuous darkness. If given the choice, young birds will rest for 12-16 hours during the first week of life regardless of the lighting schedule; however, the purpose of the dark period is to allow for both types of sleep to occur (rapid eye movement sleep (REM) or active sleep and slow wave sleep (SWS) or quiet sleep) – both types are required for proper physiological function of the birds (e.g. metabolism, thermoregulation and hormone regulation). During the light period, birds will rest in a sleep posture but both types of sleep are not present. Not providing an environment that promotes a proper sleep cycle is thought to exacerbate problems of fast growth.¹⁹

5) Guidance - Spent Hens:

Producers are encouraged to keep egg laying birds for longer than one cycle. Producers can maintain several smaller flocks (of varying ages) so that they can maintain egg production throughout the year, or they can maintain one main flock and understand that several months of the year will not yield eggs. Birds will molt naturally, and during this time a molting diet (typically lower in energy and higher fibre) can be used in between laying cycles. Because the hen utilizes large amounts of calcium in the production of eggs, it is important that producers using multi cycle hens select hens with a good skeletal system, and that supplemental calcium (such as oyster shell) is readily available.

A [Farm Assessment Checklist](#) for the welfare of laying hens has been developed by the AWTF to help producers identify areas for improvement.

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Other standards referenced during development:

Soil Association Organic Standards (April 2005) – www.soilassociation.org

BC SPCA Certified – Standards for the raising and handling of broiler chickens (November 2004); and laying hens (November 2005)

Recommended codes of practice for the care and handling of pullets, layers and spent fowl (2003)

Recommended codes of practice for the care and handling of chickens, turkeys and breeders from hatchery to processing plant (2003)

Recommended codes of practice for the care and handling of farms animals – Transportation (2001)