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# UNIT 9 MINIMUM WELFARE STANDARDS FOR COMMERCIAL LAYERS

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## 9.1 LEARNING OUTCOMES

- a) **Knowledge and Understanding:** After studying this Unit you will be able to:
- Recall specific welfare issues in commercial layer poultry.
  - Understand the global welfare regulations, constitutional/statutory provisions and the background behind the development of Indian welfare regulations for layers.
- b) **Practical and Professional Skills:** After studying this Unit you will be able to:
- Describe the minimum standards and good practices in space allowance and other management practices of commercial layer poultry.

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## 9.2 INTRODUCTION

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Dear Learner,

In MAW-002 (Unit 10), you were introduced to the specific welfare issues in commercial layer poultry, which are summarised in Box 9.1 for your quick recall.

<b>Box 9.1: Specific Welfare Issues in Commercial Layers</b>	
<p><b>Welfare Issues in Chicks</b></p> <ul style="list-style-type: none"> <li>• Killing of Male Chicks</li> <li>• Chick Handling</li> <li>• Variation in Chick or Pullet Sizes</li> </ul> <p><b>Welfare Issues in Housing</b></p> <ul style="list-style-type: none"> <li>• Spacing</li> <li>• Osteoporosis and Bone Fracture</li> <li>• Cage Layer Fatigue</li> <li>• Behavioural Deprivation and Stress</li> </ul> <p><b>Welfare Issues in Environment</b></p> <ul style="list-style-type: none"> <li>• Light</li> <li>• Ventilation</li> <li>• Air Quality</li> </ul>	<p><b>Welfare Issues in Management of Adult Layers</b></p> <ul style="list-style-type: none"> <li>• Beak Trimming</li> <li>• Emaciation</li> <li>• Spent Hens</li> <li>• Moulting</li> </ul> <p><b>Welfare Issues Related to Frustrated Behaviours among Layers</b></p> <ul style="list-style-type: none"> <li>• Injurious Pecking</li> <li>• Feather Pecking</li> <li>• Cannibalism</li> <li>• Vent Pecking</li> </ul>

### 9.2.1 Global Welfare Regulations for Layers

Jeremy Bentham argued that ability to suffer rather than the ability to reason should inform the way law treats animal. He remarked (Singer, 1975):

*The day may come when the rest of the animal creation may acquire those rights which never could have been withheld from them but by the hand of tyranny. ... The question is not, can they reason? Nor can they talk? But, can they suffer?*

In commercial layer farms, eggs are produced by rearing hens in small, barren wire cages called battery cages, a name given due to the arrangement of cages placed side by side. The battery cages are so small that the hens are unable to stand up straight or spread their wings without touching the sides of the cage or other hens or turning in a complete circle without any impediment. The floor space available to each hen is approximately 623.7 cm<sup>2</sup> which is almost the area of an A4 size paper. The most commonly used cages hold 5–10 birds per cage. A typical egg farm in our country contains thousands of cages with tens of thousands of birds, stacked in multiple tiers, lined in multiple rows (Law Commission of India, 2017). This method of stocking the hens, leads to sore feet, minor and major abrasions, broken bones and other bodily injuries to the birds with serious welfare implications as summarised in Box 9.1. Use of antibiotics and hormones as feed premix for regular feeding by some of the poultry farms has serious consequences of developing antibiotic resistance in both human beings and birds.

Considering the issue of well-being of egg laying birds as well as food safety, the European Union (EU) has decided to phase out battery cages for egg laying hens with effect from 1<sup>st</sup> January, 2012. These directives apply to all 27 EU member states. However, some European countries have preferred to adopt even stricter guidelines. For instance in Switzerland, battery cages were prohibited as early as 1992. In USA, states of California, Michigan, Ohio and Oregon have adopted the policy of prohibiting or phasing out battery cages for egg laying hens. In 2013, Bhutan declared itself a cage free country.

## 9.2.2 Indian Welfare Regulations for Layers

- Article 21 of the Indian Constitution stipulated that *No person shall be deprived of his life or personal liberty except according to procedure established by law*. The Supreme Court in the case of *Animal Welfare Board of India vs. A. Nagaraja and Others*, has extended the rights guaranteed under Article 21 of the Constitution to all living beings (7 SCC 547 *Jallikattu Case*, 2014).
- The Supreme Court, in the above case, emphasized on each animal's right to live with intrinsic worth, honour and dignity under Article 21 of the Constitution. The extended protection of right to life was to allow all species a set of rights according to international standards. It was also observed in this case that *animal has also honour and dignity which cannot be arbitrarily deprived of and its rights and privacy have to be respected and protected from unlawful attacks*.
- The State, under the Directive Principles of State Policy, is mandated to organise agriculture and animal husbandry on modern and scientific lines (Article 48, Constitution of India, 1950). Additionally, the Constitution mandates the State to endeavour to protect and improve the environment and to safeguard the forest and wildlife of the country (Article 48A, Constitution of India, 1950).
- It is the fundamental duty of each citizen, under Article 51A (g) of the Constitution, to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures.
- The PCA Act (1960) has been enacted with the objective of prevention of unnecessary pain or suffering on animals and lays down responsibilities of the persons in-charge of the animals to take all reasonable measures to ensure their well-being. It provides for setting up of the AWBI to make rules under the PCA Act to ensure that the welfare standards are met and that the animals are not exploited (Section 3 & 4, PCA Act, 1960).
- The Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011, has been framed with guidelines for the pre-slaughter handling and transport of animals including poultry birds.
- The protection, improvement of stock and prevention of animal diseases is a State subject under the Seventh Schedule of the Constitution. Accordingly, there are several State specific statutes and rules with respect to housekeeping and transport of chickens. Some examples are summarised in Box 9.2.

### **Box 9.2: Housekeeping and Transport of Chickens - State Specific Statutes and Rules**

- *Bombay Diseases of Animals Act, 1948* (Prevention and control of disease affecting animals including poultry).
- *Gujarat State Poultry Farm Registration and Regulatory Authority Act, 2007* (Registration and regulation of activities connected with poultry farming).
- *Orissa Animal Contagious Diseases Act 1949* (Prevention and control of contagious diseases among animals including poultry).

- *Punjab Livestock and Bird Diseases Act, 1948* (Prevention and control of diseases affecting livestock and birds).
- *Punjab Livestock Development Board Rules, 2001* (Constitution of a Board for promoting all round development of the poultry sector in Punjab).
- *Punjab Poultry Production Act, 2016* (Registration of poultry premises, improvement of quality of poultry products, ensuring bio-security measures in poultry operation).
- *Rajasthan Animal Diseases Act, 1959* (Prevention and control of disease affecting animals including poultry).

*(Please refer MAW-003 for more details on the PCA Act (1960) and other rules)*

With growing concern about the welfare problems arising in intensive layer farming, the Animal Welfare Board of India (AWBI) had prepared the draft ‘Prevention of Cruelty to Animals (Egg Laying Hens) Rules’ in 2012 and recommended to the Ministry of Environment and Forests to notify the rules. The Law Commission of India in 2017 conducted a detailed study on existing laws and international practices in commercial poultry farming and obtained feedback from relevant stakeholders. Based on this, the Law Commission of India modified the AWBI draft rules and finalized its Report No. 269 titled *Transportation and House-keeping of Egg-laying Hens (layers) and Broiler Chickens* for consideration by the Government. The modifications made by the Law Commission are in line with the objectives of the Prevention of Cruelty to Animals Act (1960), the constitutional provisions and the best practices in other countries. Subsequently, the Government of India had notified the *Prevention of Cruelty to Animals (Egg Laying Hens) Rules, 2019*. These Rules address the space allowance for commercial pullets or hens of species *Gallus gallus domesticus* to clarify space requirement of laying hens and pullets kept in conventional colony enclosures, previously referred to as battery cages, for egg production. These rules shall apply to the farms where egg laying hens are housed in colony enclosures. The salient features of these rules are summarised along with good practices in the following sections.

### 9.3 MINIMUM STANDARDS FOR REGISTRATION AND STOCKMANSHIP

The minimum standards for registration are summarised in Box 9.3.

#### **Box 9.3: Minimum Standards for Registration and Stockmanship**

##### **Registration**

- 1) Persons or entities owning or having charge of farms keeping such number of hens and/or pullets per farm as may be specified by the Registering Authority of the concerned State or Union Territories shall apply to get their farms registered with the Animal Husbandry Department (AHD) of the concerned State Governments/Union Territories.
- 2) The AHD of the State shall, while granting registration, impose such conditions as it may deem fit as per other existing local laws.

- 3) The application for registration shall include the farm layout, bio-security arrangement as prescribed from time to time by the Department of Animal Husbandry, Dairying and Farmers' Welfare, Ministry of Agriculture and Farmers' Welfare (Govt. of India) and other relevant information (required under the rules).
- 4) The registering authority, if satisfied that the enclosures are as per the rules, shall register the farms and issue a certificate of registration.
- 5) The certificate of registration will be valid for five years from the date of its issuance. The certificate may be renewed from time to time through an application made by the person owning or in charge of the farm to the registering authority, within three months from the date of expiry of the existing certificate of registration.
- 6) Every farm operating prior to the commencement of these rules shall, within a period of three months from the date of its commencement, register itself with the AHD of the concerned State.
- 7) The registration certificate shall be displayed in a conspicuous place at the farm.

#### **Stockmanship (Responsibility of Poultry Farm Owner or Farm Operator)**

- 1) The owner/operator/highest ranking official of farm/company/society/organisation shall be responsible for ensuring the compliance of these rules as per the given environmental conditions for the welfare of layer hens.
- 2) In case of contract farming between contractor and farmers, where inputs for poultry farming are provided to the farm owner by the contractor, both the farm owner and the contractor shall be responsible for ensuring compliance of these rules.
- 3) Where a farm is owned by a government, the responsibility of compliance of these rules shall be on the head of the institution.

### **9.3.1 Good Management Practices in Stockmanship**

- Effective welfare of flock depends mostly on farm owners/farm workers/stockman who should be aware of the welfare needs of layer poultry birds.
- Sufficient well-motivated and competent personnel are employed to carry out all necessary tasks. Staff should be well managed and supervised, fully conversant with the tasks they will be required to undertake and competent in the use of any equipment.
- The required stockmanship knowledge and skills related to general management, feeding, breeding and healthcare can be acquired through training or by working with an experienced person on-farm.
- In order for birds to become accustomed to the stockman's presence without fear, there should be frequent, quiet but close approach from an early age so that birds are not unduly frightened.
- All keepers should have a full and demonstrable understanding of the welfare needs and basic biology of the birds. At least, they should be able to:
  - o Recognise whether or not the birds are in good health;

- o Understand the significance of behavioural changes in the birds, and
- o Appreciate the suitability of the total environment for the birds' health and welfare.

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## 9.4 POWER TO AUTHORISE INSPECTION

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For the purposes of ensuring compliance, the AHD of the State or Union Territories or the Board/State Board/District Society for Prevention of Cruelty to Animals (SPCAs) may authorize officials of appropriate level to inspect any farm, and submit a report containing the findings of such inspection to the registration authority, and officials of appropriate level may:

- 1) Enter at any reasonable time and inspect the farm; and require any person to produce farm layout records kept by him in respect of the registered farm.
- 2) During the inspection, the inspecting official must follow biosecurity protocols and norms as specified.
- 3) No inspector shall visit more than one farm within a period of 72 hours for biosecurity concerns to prevent the spread of infection. The inspector should keep the record for all visits to ensure biosecurity protocols.

### Check Your Progress 1

**Note:** a) Use the spaces given below for your answers.

b) Check your answer with those given at the end of the unit.

- 1) Name the specific welfare issues related to chicks and housing in commercial layers.

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- 2) What are the major welfare Issues in layer farm environment?

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- 3) Write one constitutional provision that ensured the protection of poultry birds.

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- 4) Why 72 hours gap is to be maintained by the inspector between two farm visits?

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## 9.5 SPACE ALLOWANCE FOR LAYING HENS

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All new farms or replacement of old cages must meet the minimum specifications. The minimum standards for space allowance of laying hens are summarised in Box 9.4.

**Box 9.4: Minimum Standards for Space Allowance of Layers**

- 1) Floor space per bird shall not be less than 550 cm<sup>2</sup>.
- 2) Each cage should accommodate preferably a minimum of 6–8 birds, thus ensuring reasonable space for laying hens so they can:
  - Lie down
  - Stand up
  - Flap their wings
  - Turn around
  - Access feed and water.

### 9.5.1 Good Management Practices in Maintenance of Records

- 1) The farm owner or the operator shall ensure that the maximum housing density is not exceeded and maintain records of the total floor area available to the hens; the space allowances and maximum number of birds kept within the house.
- 2) The farm owner or the operator shall maintain the record of available number of birds, the daily mortality and number culled.
- 3) These records shall be made available for inspection by the prescribed authority.

### 9.5.2 Good Management Practices in Housing

- Furnished or enriched houses are the housing systems that provide additional features often including perches, a nest box/area, litter or scratch area and more space per hen to meet the welfare needs.
  - o Furnished cages are available to house large (60 hens), medium (15 to 30 hens), and small (up to 15 hens) group sizes.
  - o The European Commission (1999) offered standards for furnished cages that include perching space for all hens and a nest and dust bath area, with minimum available space per hen of 750 cm<sup>2</sup> per bird.
  - o In these systems, claw-shortening devices are helpful to maintain short claws, and perches can help to increase leg strength.
- Provisions shall be made to keep indoor chickens active. Environmental enrichment can improve bird health and welfare by reducing disturbances, aggression, injurious pecking, fear responses and stress and improving leg health by increasing the level of physical exercise.
- There shall be sufficient space for all hens to perch and must have a nest box, litter to allow pecking and scratching and access to feed freely.

The following good practices in housing that we already discussed in the previous unit are also applicable to commercial layer poultry housing facility:

- space to meet the behaviour needs
- topography (location, orientation and drainage)
- flood and fire risk
- climate, feed and water requirements
- shelter
- surface materials
- cleaning and waste disposal
- width
- length
- roof
- floor
- side walk

*(Please refer to Unit 8 on 'Minimum Welfare Standards for Commercial Broilers' for more details).*



## 9.6 PROHIBITIONS WITH REGARD TO FEED

The minimum standards on prohibition with regard to feed are summarised in Box 9.5.

### Box 9.5: Minimum Standards on Prohibition with Regard to Feed

- 1) The feeding of hens with remains of dead chicks shall be prohibited.
- 2) The use of growth promoters shall be prohibited.
- 3) Antibiotics may be administered for therapeutic purposes (disease treatment) and only under supervision of a veterinarian.
- 4) Withdrawal of feed to induce moulting shall be prohibited.

*(Please refer to MAW-002, Unit 12 for more details on welfare issues in forced moulting)*

### 9.6.1 Good Practices in Feeding

The basic objectives of feeding layer birds are:

- Good growth
- Good Feed Conversion Ratio (FCR)
- Good skeletal health and survivability
- Attaining sexual maturity at a given weight and time
- High egg production

The basic purpose of phasing out is to provide nutrients as per need depending upon the growth rate and type of growth.

- *Example 1 (Breeders):* Hens for production of fertile eggs for hatching of chicks.
- *Example 2 (Layers):* Hens for production of table eggs for consumption.

The body weight and nutrient requirements are almost similar for both the groups except certain micronutrients, which are given in excess in breeder diets.

The egg laying hens are generally reared in three phases:

- a) **Starter** (0 to 8 weeks): Young chicks need more of body building nutrients in their ration. There is a greater need of protein for growth of tissues and feathers.
- b) **Grower** (9 to 20 weeks): The rate of growth is slowed down during this period, but chicks need enough nutrients for proper body development and reserves for the subsequent laying period.
- c) **Layer** (21 weeks and above): During the early period of laying, a young pullet must consume sufficient amount of all nutrients to allow it to :
  - o maintain its body weight
  - o produce eggs at a maximum rate
  - o produce eggs of bigger/optimum size
  - o reserve nutrients in the body against stress and diseases, and

- o have enough of calcium, the requirement of which will increase significantly with increased rate of egg laying.

Water must be available always and *ad libitum*.

### 9.6.2 Good Practices in Lighting

- The total duration of light, including sunlight is referred to as “photoperiod”. A photoperiod of 15½ to 16 hours per day is recommended for egg laying hens.
- A sudden change in duration of light or feed should not be done and only a gradual change must be made in length of the light-day (photoperiod).
- When the first egg is laid (about 20 weeks of age), it is advisable to consider the change of lighting programme.
- The additional light other than the natural day-light may be given either before the sunrise or after sunset or a combination of both.
- Under the commercial conditions, duration of light is increased by half an hour per week (from 20<sup>th</sup> week onwards till a maximum of 16-17 hours of light a day is attained and maintained at that point onwards.

Now, the next question is what happens if 24 hours of light is given. It causes more harm than good. Layers must never be given continuous (24 hours) light. Excess light results in excess feed consumption, fat accumulation, hyper-excitability, cannibalism, prolapse, reduced egg production and many other diseases.

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## 9.7 VETERINARY CARE, DISPOSAL OF MALE CHICKS AND SPENT HENS

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The minimum standards on veterinary care, disposal of male chicks and spent hens are summarised in Box 9.6.

**Box 9.6: Minimum Standards on Veterinary Care, Disposal of Male Chicks and Spent Hens**

**Veterinary Care:** The farm owner or farm operator shall deploy adequate manpower including a registered veterinarian to provide adequate management and veterinary care during housing and in emergency medical care. The emergency contact details of the veterinarian should be displayed at a conspicuous place in the farm.

**Euthanasia of Male Chicks:** The hatcheries shall use any of the procedures prescribed in the OIE guidelines for euthanizing male chicks.

**Disposal of Spent Hens:** The farm shall sell the spent hens preferably to the licensed slaughter houses or to a registered trader. The transport and slaughter of spent hens shall be in accordance with the applicable rules.

*(Please refer to MAW-002, Unit 10 for more details on welfare issues in killing of male chick)*

### 9.7.1 Good Practices in Health, Disease Treatment and Veterinary Care

- Biosecurity programmes in layer farm should address the control of the major routes for disease and pathogen transmission.
- Appropriate veterinary advice on poultry disease diagnosis, prevention and treatment should be sought as required.
- Antibiotics must not be used indiscriminately. They should be used only for treatment of a specific disease or infection as prescribed by a veterinarian to avoid a welfare issue.
- Poultry birds should be vaccinated to protect against likely infectious diseases.
- Internal and external parasites should be monitored and managed.
- The birds should be monitored daily to identify early signs of lameness, and the cause of lameness investigated and treated.

## 9.8 CANCELLATION OF REGISTRATION AND ENFORCEMENT OF RULES

The rules on cancellation of registration, appeal, penalties and enforcement time are summarised in Box 9.7.

### **Box 9.7: Rules on Cancellation of Registration, Appeal, Penalties and Enforcement Time**

**Cancellation of Registration:** If any poultry farm is not maintained in the manner required under the prescribed rules, the registering authority may, after serving a show cause notice in writing and giving an opportunity to the person to reply on such show cause notice within a period of 30 days, cancel the certificate of registration.

**Revocation of Registration:** If the farm complies with the deficiencies identified during the inspection within a specific time frame, the registering authority shall consider revoking the registration.

**Appeal:** An appeal shall lie from any order refusing or cancelling the registration of any farms under these Rules to such officer or authority as the State Government may specify on this behalf.

**Penalties:** If any person, owning or having charge of farms, contravenes the rules, he shall be punishable with fine as prescribed under Prevention of Cruelty to Animals Act, 1960. When the contravention is by an entity, the person in-charge shall be deemed to be guilty of the offence and shall be punishable accordingly.

#### **Enforcement Time:**

- i. The State Governments shall notify the administrative provisions necessary to comply with these rules not later than 31st December 2019. States shall forthwith inform the same to the concerned administrative ministry.
- ii. Existing farms will change to new animal welfare guidelines not later than 1<sup>st</sup> January, 2025.
- iii. These rules shall come into force on 1<sup>st</sup> January 2020 after the publication in the Official Gazette.

Before we proceed, complete the activity 1.

**Activity 1 (Visit):** Visit a nearby commercial layer farm and discuss with the supervisor about Standards and Good Practices followed in the farm. Write the outcome of the discussion and your observations on the following:

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b) Housing

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c) Feeding and Watering

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d) Healthcare

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e) Maintenance of Records

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**Check Your Progress 2**

**Note:** a) Use the spaces given below for your answers.

b) Check your answer with those given at the end of the unit.

1) What is the minimum required floor space for layer birds?

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2) What is meant by furnished or enriched houses?

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3) Indicate the minimum standards on prohibition with regard to feed.

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4) Write the three phases in rearing of egg laying hens.

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5) What happens if 24 hours of light is given to layer birds?

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## 9.9 LET US SUM UP

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- In this unit we recapitulated the specific animal welfare issues in commercial layer poultry.
- The global welfare regulations for layers, constitutional/statutory provisions and the background behind the development of Indian welfare regulations for layers are discussed.
- We also discussed the minimum standards and good practices in layers for registration, stockmanship, space allowance, stimulating housing environment, feeding, lighting, veterinary care, disposal of male chicks and spent hens and cancellation of registration and enforcement of rules.
- Effective welfare of flock depends mostly on farm workers/stockman who should be aware of the welfare needs of commercial layer poultry.
- With a view to curtail the cruel practices of confining birds in battery cages, it is necessary to have a distinction between the eggs obtained from healthy layer farms maintained in cage free environment (cage free egg farming ) and the eggs obtained from battery cage farming.
- Certification of the poultry farms that follow the practice of cage free egg farming is desirable. This would enable the consumer to select the eggs obtained from healthy farming and will result in discouraging battery cage farming.

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## 9.10 KEYWORDS

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**Conventional Colony Enclosures / Battery cages:** A confined area which can have varying dimensions of cages and number of laying hens and pullets conforming to minimum space required so as not to inflict cruelty.

**Farm:** It means the land, building, support facilities and other equipment that are wholly or partially used in poultry farming for the production of eggs.

**Layer Pullets:** Female poultry birds raised for commercial layer production from hatch until the onset of sexual maturity.

**Laying Hens:** Sexually mature female poultry birds kept for commercial production of eggs for human consumption and other usage.

**Society for Prevention of Cruelty to Animals (SPCA):** The Society as defined in Clause (e) of Rule 2 of the PCA (Establishment and Regulation of SPCA) Rules, 2001.

**Stockmanship:** Knowledgeable and skilful handling of poultry birds in a safe, efficient, effective, and low-stress environment.

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## 9.11 REFERENCES AND FURTHER READING

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## 9.12 SELF ASSESSMENT EXERCISES

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- 1) Discuss the minimum standards for registration and stockmanship of layer farms along with good management practices.
- 2) Explain the minimum housing standards and good management practices in stimulating housing environment for layer poultry.

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## 9.13 ANSWERS/HINTS TO CHECK YOUR PROGRESS

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### Check Your Progress 1

- 1) The welfare issues in chicks are killing of male chicks, chick handling and variation in chick or pullet sizes. The welfare issues in housing are spacing, osteoporosis and bone fracture, cage layer fatigue and behavioural deprivation and stress.
- 2) The three major issues in layer farm environment are light, ventilation and air quality.
- 3) The Supreme Court extended the rights guaranteed under Article 21 of the Constitution to all living beings and observed that *animal has also honour and dignity which cannot be arbitrarily deprived of and its rights and privacy have to be respected and protected from unlawful attacks.*
- 4) For biosecurity concerns and to prevent the spread of infection between farms, no inspector shall visit more than one farm within a period of 72 hours.

### Check Your Progress 2

- 1) Floor space per layer bird shall not be less than 550 cm<sup>2</sup>.
- 2) Housing systems that provide additional features often including perches, a nest box/area, litter or scratch area and more space per hen to meet the welfare needs.

**Poultry Welfare Standards**

- 3) The feeding of hens with remains of dead chicks and the use of growth promoters shall be prohibited. Antibiotics may be administered for therapeutic purposes (disease treatment) and only under the supervision of a veterinarian. Withdrawal of feed to induce moulting shall be prohibited.
- 4) Starter (0–8 weeks), grower (9–20 weeks) and layers (21 weeks and above).
- 5) Layers must never be given continuous (24 hours) light. Excess light results in excess feed consumption, fat accumulation, hyper-excitability, cannibalism, prolapse, reduced egg production and many other diseases.



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