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| *भारतीय मानक मसौदा***पिंजरा मुक्त अंडा खेती — रीति संहिता***Draft Indian Standard***CAGE-FREE EGG FARMING — CODE OF PRACTICE**ICS 65.020.30 |
| Animal Husbandry and Equipment Sectional Committee, FAD 32 | Last date of comments:  |

**FOREWORD**

(*Formal clause will be added later*)

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2: 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard*

**CAGE-FREE EGG FARMING — CODE OF PRACTICE**

**1 SCOPE**

This standard prescribes the requirements and practices for non-caged egg farms and facilities in India. This standard may also applicable to the indoor parts of free-range facilities.

**2 TERMINOLOGY**

For the purpose of this standard, following terminology shall be used:

**2.1 Authorised Representatives** —

**2.2 Battery Cages** — Wire-mesh cages used in industrial egg production where hens are confined with limited space to move.

**2.3 Emergency** — It refers to a situation that requires immediate action due to unexpected circumstances that threaten the health, safety, or well-being of animals. They can arise from various sources, including disease outbreaks, accidents, environmental conditions, power failures, natural calamities, or equipment failure.

**2.4 Euthanasia** — It refers to the humane practice of intentionally ending the life of an animal to relieve suffering or when it is no longer viable for the animal to live without severe pain, distress, or poor quality of life. It must only be carried out by trained personnel and follows specific methods designed to be quick and painless.

**2.5 Flock** — A group of birds of the same age and breed raised together within the same area of a shed.

**2.6 Flock Size** — It refers to the number of birds or animals in a specific group or herd being managed together.

**2.7 Intensive Systems** — Systems of animal production where animals are kept in confined spaces with high stocking densities to maximize productivity and efficiency.

**2.8 Layer Hen** — A layer hen is a mature female chicken that is raised specifically for egg production. These hens typically begin laying eggs around 18 to 20 weeks of age and continue producing eggs regularly for about one to two years.

**2.9 Nest Boxes** — dedicated areas where hens can lay eggs in a private, comfortable setting.

**2.10 Pullet** — Young female hen, typically less than a year old, that has not yet started laying eggs. Pullets are raised separately from mature hens in specific conditions to prepare them for egg production.

**2.11 Staff** — Refers to all individuals involved in the care, handling, and management of hens. This includes both permanent employees and contractual or temporary workers. Their roles may range from direct animal handling to more specialized positions such as veterinary care.

**2.12 Veterinarian/Veterinary Practitioner** — Refers to any qualified person who is registered as a veterinary practitioner under the *Indian Veterinary Council Act*, 1984 (52 of 1984)

**3 NUTRITIONAL REQUIREMENTS**

**3.1 Feed**

**3.1.1** Hens shall be fed a wholesome diet which:

a) is appropriate to their age, breed, and needs

b) is sufficient quantity to maintain their good health

c) satisfies their nutritional needs and is appropriate to a cage-free environment

d) is formulated with appropriate levels of essential amino acids, fibre and sodium to minimize the

 risk of injurious pecking.

e) includes coarse calcium, to aid with bone strength and shell quality on a daily basis

f) includes the provision of insoluble grit designed for use by poultry (e.g. composed of granite,

 quartz, or silica sand) of appropriate size and quantity, no less than once weekly.

g) is an appropriate consistency (mash for the laying period) to minimize the risk of injurious

 pecking.

**3.1.2** Any changes in diet shall be introduced gradually.

**3.1.3** The timing of feed must be consistent and regular and matched to the timing of feed during rearing.

**3.1.4** Antibiotics and coccidiostats may only be administered for therapeutic reasons (disease treatment) and only under the direction of a registered veterinarian.

**3.1.5** Feed must not be allowed to remain in feeders in a contaminated or stale condition.

**3.1.6** Feeding equipment must be of an appropriate height and design for birds to access feed easily using normal posture.

**3.1.7** Feed distribution must ensure uniform feed availability throughout the housing system.

**3.1.8** These requirements also apply to recovery pens/hospital areas.

**3.1.9** Feed records must be maintained and made available during inspections. This must include details about feed ingredients, composition, feed intake, etc.

**3.1.10** Wires over feeders and drinkers must:

a) not be electrified

b) be demonstrated not to be ever connected to an electricity source

**3.1.11** To avoid competition and ensure that feed is easily available to hens, producers must provide each hen with at least:

a) 5 cm of (actual) linear track (for double-sided)

b) 10 cm of linear track (for single-sided) or

c) 4 cm of perimeter space for circular feeders.

**3.2 Water**

**3.2.1** Birds must have free and continuous access to clean, fresh drinking water at all times, except when required to be restricted for medical purposes such as the administration of medication, vaccinations, etc.

**3.2.2** Drinking equipment must be positioned so water is easily accessible to the birds in their normal posture.

**3.2.3** Drinkers must be:

a) Provided in a manner that provides accessibility, minimize the risk of competition, and reduce

 water spillage.

b) placed at an optimum height for the size and age of the birds,

c) of an appropriate design, and

d) checked and maintained regularly

e) of an appropriate pressure-high enough to allow hens to consume enough water to avoid

 crowding at the drinker lines, particularly in hot weather, but low enough to avoid spilling

 excess water onto the litter.

**3.2.4** Antibiotics and coccidiostats may only be administered for therapeutic reasons (disease treatment) and only under the direction of a registered veterinarian.

**3.2.5** Drinker distribution must ensure uniform feed availability throughout the housing system.

**4 INDOOR LIVING ENVIRONMENT**

**4.1 Facilities and Equipment**

**4.1.1** There shall be no use of cage systems including battery cages, California cages or enriched/furnished cages, as well as systems that are designed to confine birds such as lock-back cages that would be open during the day but closed at night, are prohibited. In aviary systems, all hens must have access to all levels of the housing system at all times.

**4.1.2** The use of combination (`combi’) systems is prohibited.

**4.1.3** The facilities and equipment must be designed, constructed and maintained in a way that minimizes stress, minimizes the risk of disease or injury, provides protection from the elements, facilitates cleaning and good hygiene practices, and restricts the access of pests, predators and other animals.

**4.1.4** In systems that include a droppings pit,

a) Birds must not have access to the droppings pit.

b) Any birds found in the dropping put must be immediately removed, and action must be taken to

 prevent future access.

c) The droppings pit must be inspected at least once a day.

d) Records of the inspection must be maintained.

e) Records must be maintained of any birds found in the droppings pit, as well as their removal and

 action taken to prevent future access of any bird.

**4.2 Space Allowance:**

**4.2.1** The maximum stocking density must be 9 hens/m2 of usable space area and 6-8 hens/m2 in hot or humid climates.

**4.2.2** The vertical height of housing must be designed to ensure hens can, without difficulty, stand upright, turn around, and stretch their legs and wings.

**4.2.3** *Stocking Density*:

a) In a single-level, all-litter house, a minimum of 0.14 sq. m. per hen must be allocated to allow

 normal behaviour and dilute the faeces.

b) In a house with litter and a raised slatted area, with feeders, drinkers, and perching/roosting areas

 over a droppings pit/belt, to which hens must not have access, the minimum space allowance is

 0.11 sq. m. per hen.

c) In a multi-tier house with feeders and drinkers on overhead perches/platforms, a minimum of 0.09

 sq. m. of space must be available per hen.

**4.2.4** *Replacement Pullet Stocking Density*:

a) Birds must not be stocked at a density any greater than 20 kg/m at 16 weeks of age.

b) Flock uniformity in terms of breed, size, and age must be maintained to avoid cannibalism and

 aggressive pecking. No more than 20% of the pullets must have live weights above ±10% of the

 mean weight.

**4.3 Safety**

**4.3.1** Hens must not be exposed to smoke, fumes, paints, wood preservatives, disinfectants or any other substances that are toxic to them

**4.3.2** All electrical installations at main voltage must be:

a) Inaccessible to the hens;

b) Well insulated;

c) Safeguarded from rodents;

d) Properly grounded; and

e) Tested regularly for stray voltage.

**4.4 Ventilation**

**4.4.1** The ventilation system must maintain a thermally comfortable environment and prevent heat or cold stress.

**4.4.2** The ventilation system must maintain good air quality with low dust levels and harmful gases to avoid negative impacts on bird welfare.

**4.4.3** The ammonia concentration must not exceed 20 ppm.

**4.4.4** Minimum and maximum indoor temperatures must be recorded daily.

**4.4.5** The air quality must be monitored and recorded daily.

**4.5 Flooring and Litter**

**4.5.1** All flooring areas (including any raised slatted areas, tiers or platforms) must provide adequate foot support to avoid damage or injury to the birds.

**4.5.2** All birds must have unlimited access to an area with litter material that allows dustbathing and foraging.

**4.5.3** The birds must have access to the litter area as soon as possible after arrival at the farm, ideally not more than 24 hours after placement.

**4.5.4** The litter material must:

a) Be of a suitable material and particle size

b) Be of good quality and type

c) Be maintained in a dry and friable condition

d) Be a sufficient depth that ensures the birds’ feet and plumage are free of excessive faecal

 contamination

e) Allow birds to dustbathe and forage freely

f) Be topped up daily, if necessary, with fresh litter

g) Be promptly replaced if wet, damp or hardened

h) Not be infested with mites, or insects or be otherwise contaminated

**4.5.5** At least one-third of the available floor space must be covered with litter, with an even depth throughout the shed of a minimum of 5 cm.

**4.5.6** The floor space must be designed to:

a) Allow for effective cleaning and disinfection, to prevent the buildup of parasites and pathogens

b) Concrete floors are preferred over dirt floors as they can be cleaned and disinfected more

 effectively.

**4.5.7** Fresh litter must be stored indoors in a clean, vermin-proof area to ensure it remains dry and free of contaminants.

**4.6 Lighting**

**4.6.1** There must be a minimum period of 8 hours of continuous, uninterrupted darkness in every 24-hour period.

**4.6.2** A minimum light level of 10 lux must be maintained throughout the facility (excluding nest boxes, which must be darker).

**4.6.3** When birds are shut into housing or shelter, any artificial light must be distributed evenly.

**4.6.4** Lighting must not be changed suddenly and there must be gradual dimming and lighting periods that mimic natural sunrise and sunset, over a period of 15 minutes.

**4.7 Nest Boxes**

**4.7.1** At least one nest box must be provided for every 5 hens OR at least 1 square metre of nest area must be provided per 120 hens for group nesting.

**4.7.2** Nest boxes must be enclosed and draught-free.

**4.7.3** Nest boxes must be provided with a suitable floor substrate, such as rice hulls, straw, AstroTurf, dimpled rubber mats, etc., that:

a) Encourages nesting behaviour

b) Is managed hygienically

c) Must be cleaned/replenished at least weekly, as applicable

d) Does not consist of wire or plastic-coated wire that can come in contact with the birds.

**4.7.4** Attention must be paid to any nest boxes being over-populated, and corrective action must be taken.

**4.7.5** There must be a regular collection of floor eggs during the early laying period.

**4.7.6** There must be no use of lighting in nest boxes.

**4.8 Perches**

**4.8.1** All hens must have access to elevated perches at all times

**4.8.2** A minimum of 15 cm elevated linear perch space must be available per hen

**4.8.3** Perches must:

a) Have a gap of no less than 1.3 cm on either side of any perch to allow hens to grip the perches

 without the risk of trapping their claws.

b) Allow hens to wrap their toes around the perch and balance evenly in a relaxed posture for an

 extended period.

c) be at least 2.54 cm wide at the top (rounded perches must have a diameter of not less than 2.54

 cm and not greater than 7.6 cm.

d) Not have sharp edges.

e) Be capped at the ends, if hollow.

f) Be of non-slip material.

g) Be clean and dry.

h) Be sufficiently stable to minimize the risk of injury to hens.

**4.9 Pecking Objects**

**4.9.1** Pecking objects must be provided inside the laying facility at all times. These include nets of straw, pecking blocks, leaves, coconut husks, etc.

**4.9.2** At least two objects must be provided per 1000 hens.

**5 HEALTH MANAGEMENT**

**5.1** Each farmer must establish contact with a veterinary practitioner, who must be familiar with:

a) The birds on the farm

b) The health requirements of the state

c) Methods to maximize bird health and welfare

**5.2** Each farmer must schedule regular preventative care visits by a registered veterinarian.

**5.3** Treatment:

a) Any animal identified as being sick or injured must be given appropriate treatment as soon as

 possible

b) All medications and vaccines must be administered safely and appropriately

c) Antibiotics must only be administered for therapeutic purposes and not used prophylactically

d) Individual sick or injured birds must be temporarily segregated/quarantined, where appropriate

e) Care of sick hens: any hens suffering from injury such as open wounds or fractures, or from

 prolapse of the vent, must be separated, treated without delay; or if necessary, humanely killed

 (euthanised).

f) If there is a known risk of disease on a farm, vaccines must be administered.

g) Medicines must be:

i) only administered by competent and trained personnel under the direction of a veterinarian

ii) clearly labelled and stored in accordance with the label instructions

iii) kept in a secure, lockable store that is safe from animals, children and birds and separate from food-producing areas or food-source areas

iv) legal for use in India

h) Records must be maintained of all administered medications

**5.4** Each farm must have a written Animal Health Plan (AHP):

a) The AHP, emphasizing prevention of illness or injury, must be prepared in consultation with the

 farm’s affiliated registered veterinarian to promote positive health and limit the need for

 treatment. It must address:

i) Information on treatments and other aspects of flock health

ii) Causes of morbidity and mortality, including euthanasia

iii) Tolerance limits and benchmarks on overall flock performance

iv) Avoidance of physical, nutritional or environmental stress

v) Climatic considerations

vi) Disease prevention strategies, including vaccinations and medication

vii) Biosecurity measures

viii) Nutrition

ix) Ranging and foraging area management, where relevant

x) Exclusion of predators and control of rats and mice

xi) Cleaning and disinfection

b) The AHP must include details like vaccination schedule, veterinarian name, person-in-charge,

 medication administered, number of inspections, enrichment provided, flock performance

 indicators, etc.

c) The level of feather loss within the flock must be assessed on at least a monthly basis through

 visual assessment (without handling) by scoring 5 birds in 10 different areas of the facility (a

 sample of 50 birds. Scores must be recorded separately for the back/vent and head/neck of the

 birds. Assessments will be recorded based on the scale below:

i) Score 0 — no/minimal feather loss (No bare skin visible, no or slight wear, only single

 feathers missing)

ii) Score 1 — slight feather loss (Moderate wear, damaged feathers or 2 or more adjacent

 feathers missing, bare skin visible up to 5 cm in dimension)

iii) Score 2 — moderate/severe feather loss (Bare skin visible at more than 5 cm maximum

 dimension). If feather loss issues surpass the score of 2, immediate action must be taken

 to alleviate the problem.

d) Flock performance data must be continuously monitored for indicators of disease or production

 disorders.

e) If any flock performance parameters fall outside the tolerance limits identified in the AHP, a

 program of action must be developed to remedy the problem.

f) In the event of repeated injuries (such as foot pad lesions, claw wear or extensive feather loss), a

 program of preventive action must be specified and implemented.

g) Written procedures must be in place, and followed, for the safe disposal of pharmaceutical waste,

 needles and other sharps.

**5.5 Training**

**5.5.1** All those working with hens must be trained and competent to carry out the tasks required of them and interact with birds calmly and gently

**5.5.2** Staff training must include bird handling, inspections, maintenance, bird behaviours, and treatment of sickness, injury or distress.

**5.5.3** All staff training must be recorded.

**5.5.4** All caretakers must be trained in the following areas:

a) How to comply with relevant legislation

b) Recognize signs of common diseases and know when a veterinarian must be consulted

c) Recognize signs of normal behaviour, abnormal behaviour and fear

d) Understand the environmental requirements for hens

e) Handle hens positively and compassionately

f) How to quickly take effective corrective measures

g) How to seek additional help from experts (e.g. veterinarian, feed advisor) if necessary

**5.6 Handling**

**5.6.1** All staff must be trained in low-stress handling methods

**5.6.2** Hens must be held with both hands gently supporting the bird’s body and not caught or carried by a single leg, the neck, head, tail, feathers or tips of the wings

**5.6.3** Hens must not be mistreated in any way, including rough handling, being thrown, swung, hit, dragged, dropped, kicked, or piled on top of one another.

**5.6.4** These standards apply to every stage of life including depopulation and transport.

**5.7 Injurious Pecking**

**5.7.1** Hens must be monitored for feather condition and signs of injurious pecking, and prompt action must be taken to address signs of injurious pecking

**5.7.2** Hens must be proactively managed for the prevention of injurious pecking through the provision of ample environmental enrichment, calm and consistent stockperson ship and environment, adequate fibre and amino acids in feed, changes in environment or diet only introduced gradually, etc.

**5.7.3** The use of artificial devices (such as blinkers or contact lenses) that restrict the bird’s vision is prohibited.

**5.8 Beak Trimming**

**5.8.1** Where beak trimming is performed:

a) It must be done by trained personnel using infrared trimming at the hatchery

b) It must not be done manually

c) It must be performed consistently across the flock

d) All trimming equipment must be well-maintained and calibrated

e) Only the tip of the upper mandible may be removed in order not to affect feeding, ground pecking

 or preening. A maximum of ⅕ of the beak may be trimmed.

f) The lower mandible may be “stopped” (e.g. heat treated) without any beak being removed to

 avoid distortion of beak formation in later life

g) Hot blade trimming can only be performed on birds up to 10 days of age and is limited to the tip

 of the beak (less than 1/5th of the beak). Hot blade trimming is only permitted when infrared

 trimming at the hatchery is not available.

**5.8.2** Alternative methods to beak trimming must be implemented to prevent and manage injurious pecking, such as offering pecking material like pecking blocks.

**5.9 Forced Moulting**

**5.9.1** All methods of forced moulting are prohibited, including withdrawal of feed and water, dietary manipulation, light restriction, etc.

**5.10 Inspection**

**5.10.1** Daily inspection of the birds and the environment must be conducted to check their health and behaviour.

**5.10.2** Particular attention must be paid to cannibalism, significant feather loss, foot pad lesions, extensive claw wear, fowl mite infestation, bone fractures, keel bone deformation and trapping.

**5.10.3** Staff responsible for the birds must be able to recognize signs of good health, behaviour and welfare as well as poor or abnormal health, behaviour and welfare.

**5.11 Mortality**

**5.11.1** Mortality rates must be recorded daily.

**5.11.2** The cause of mortality must be investigated and recorded for every death.

**5.11.3** If the daily mortality is over 0.5% or monthly mortality is over 1%, remedial action must be taken immediately to prevent further deaths.

**5.12 Biosecurity**

**5.12.1** There must be clear quarantine and biosecurity procedures in place

**5.12.2** All visitors’ details must be recorded.

**5.12.3** Visitors who have been in contact with other poultry within the last 48-72 hours must not be permitted on the farm.

**5.12.4** Protective clothing and footwear must be worn by all visitors

**5.12.5** There must be footbaths and hand disinfectant at the entrance of each shed.

**5.12.6** The movement of people between sheds must be specified and they must visit the younger birds first.

**6 EMERGENCY/CONTINGENCY MEASURES**

**6.1** Producers must ensure that contingency plans and adequate facilities are in place to ensure access to sufficient feed and water in the case of an emergency like power failures, natural calamity, etc.

**6.2** A method for providing clean, fresh water for at least 24 hours during a shut-off of the main water supply must be available on-site.

**6.3** Contingency plans and equipment must be in place to ensure that conditions within the shed can be managed in the event of a power failure or natural disaster.

**7 EUTHANASIA**

**7.1** Birds that are sick or injured to a degree from which they are unlikely to recover must be promptly euthanised in a manner that renders the bird immediately insensible to pain.

**7.2** Euthanasia must only be performed by a registered veterinarian or well-trained and competent person.

**7.3** The only appropriate methods of euthanasia are those that render birds insensible to pain. They are:

a) Cervical dislocation

b) Controlled atmosphere gas-killing systems

c) Lethal injection

**7.4** All other methods of euthanasia are prohibited, including

a) Suffocation

b) Live burial

c) Poisoning

d) Penetration of the brain or spinal column without pre-stunning.

**7.5** All equipment used to perform euthanasia must be appropriately designed, maintained and operated to ensure the method is consistent between animals and handlers.

**7.6** The main causes of euthanasia must be recorded.

**7.7** Appropriate actions must be taken where the method of euthanasia did not result in immediate loss of consciousness and death.

**7.8** After performing euthanasia, each bird must be examined to confirm death.

**7.9** Killing in emergency situations such as large-scale killing due to an outbreak of disease must be done abiding by the methods prescribed above as well.

**8 WASTE MANAGEMENT**

**8.1** Waste management in poultry facilities must be in accordance with national, state and municipal laws, including but not limited to:

a) ‘Environmental Guidelines for Poultry Farm’ published by the Central Pollution Control Board

 (August 2021)

b) Environment (Protection) Act 1986

c) The Environment (Protection) Rules, 1986

d) Air (Prevention and Control of Pollution) Act 1981

e) Water (Prevention and Control of Pollution) Act, 1974

**9 KILLING FOR SLAUGHTER**

**9.1** No hen may be slaughtered on the farm unless the farm also has a slaughterhouse duly registered under the law. In such cases, the producer must ensure that all laws are complied with, including but not limited to:

a) The Prevention of Cruelty to Animals Act, 1960

b) The Prevention of Cruelty to Animals (Slaughter House) Rules, 2001

c) Food Safety and Standards Act, 2006

d) The Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations,

 2011

**9.2** Where no registered slaughterhouse exists on the farm, producers must ensure that hens are only sent to slaughterhouses that have the necessary registrations and permissions as mandated by the law, including but not limited to approval from the state slaughterhouse monitoring committee.

**10 TRANSPORT**

**10.1** When birds are being transported to the facility as day-old chicks, or from the facility at the time of depopulation, or at any other point, the procedure established under all relevant laws must be strictly followed.

**10.2** This includes veterinary inspection, fitness to travel certificates, handling of birds, conditions of transport, maintenance of records, etc., as prescribed under the Transport of Animals Rules, 1978, and The Prevention of Cruelty to Animals Act, 1960.

**11 RECORDS**

**11.1** Detailed written records relevant to the adherence to these standards must be maintained, including:

a) Feed: documentation of feed ingredients, composition, and feed intake such as feed ingredients,

 composition, feed intake, etc.

b) Water Quality and Drinker Systems: Records of water quality and maintenance of drinker

 systems.

c) Droppings Pit: Daily inspection records, including records of any birds found in the droppings

 pit, their removal, and the actions taken to prevent future access by birds

d) Indoor Temperatures: Daily recorded minimum and maximum indoor temperatures

e) Air Quality: Daily recorded air quality

f) Health records: Animal Health Plan (AHP), including records of

i) Medication prescribed and administered

ii) Treatment

iii) Vaccinations

iv) Feather loss

g) Staff training records

h) Visitor Records: Documentation of visitor details

i) Mortality records: Including mortality rate, cause, and remedial actions taken.

j) Euthanasia Records: Including the reason, method used, and confirmation of death

**11.2** All records must be made available at the time of inspection by authorized representatives.

**12 BIS CERTIFICATION MARKING**

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act,* 2016 and the Rules and Regulations framed there under, and the products may be marked with the Standard Mark.