

1 April 2002

Administrative Order No. 12

Series of 2002

Subject : CODE OF PRACTICE AND MINIMUM STANDARDS FOR THE WELFARE OF CHICKENS

Pursuant to the provisions of Republic Act 8485, otherwise known as the "Animal Welfare Act of the following rules and regulations are hereby promulgated for the information, guidance and compliance of all concerned:

Section 1. BASIC POLICY AND OBJECTIVES

Welfare considerations are important for the keeping and farming of animals. Standard procedures in animal welfare are not only important legally, but also have direct economic benefits by enhancing productivity.

Good husbandry such as modern breeding, feeding, housing and management systems is essential for good welfare. This will lead to an improvement in the quality of life for chickens as well as an improvement in the quality of the product. This Code is intended to encourage all persons involved in the poultry industry to adopt the highest standards of husbandry.

This Code takes into consideration the five basic freedoms of animals, which are:

- o Freedom from thirst, hunger and malnutrition ?
- o Freedom from physical discomfort and pain
- o Freedom from injury and disease
- o Freedom to conform to essential behavior patterns; and
- o Freedom from fear and distress

Chickens are raised ranging from backyard to large commercial enterprises. They are totally reliant on man for all their daily requirements. Those who are concerned with the day-to-day care of the chickens are obliged to treat them with skill and consideration. Their welfare shall be safeguarded under a variety of management systems.

Chickens shall be provided with comfortable and secured accommodations. When they are kept outside, they shall be provided with shelter to protect them from inclement weather and give them shade from direct sunlight. They shall have access to high ground where there is danger of flooding. Those confined in houses shall have sufficient space for feeding, roosting, stretching and expressing their normal behavioral patterns. Adjustments shall be made when necessary.

This Code may be revised to take into account advances in the understanding of animal physiology and behavior, changes in animal husbandry, and their relationship to the welfare of the animals. This is based on the knowledge and technology at the time of publication. It does

not replace the need for experience and common sense in the husbandry of domestic poultry.

Section 2. GENERAL RESPONSIBILITIES

2.1 The Animal Welfare Act of 1998 aims to protect and promote the welfare of all animals in the Philippines.

2.2 All farms with a minimum stocking density of at least 40,000 broilers or 30,000 layers or 2,000 breeders shall be required to have an attending veterinarian. In all cases, the veterinarians must be currently registered to the Professional Regulation Commission (PRC) with current Professional Tax Receipt (PTR) and TIN (Tax Identification Number).

2.3 A responsible officer/person shall be designated for the implementing of good husbandry practices.

2.4 No person shall commit any of the following acts:

2.4.1 Cruel treatment of any chicken

2.4.2 Neglecting to supply the chicken with proper and sufficient food, water and shelter

2.4.3 Willfully or wantonly causing unreasonable or unnecessary pain, suffering or distress to the chicken such as, but not limited to:

o Hanging them upside down for long periods of time " Crossing the wings of the chicken

2.4.4 Slaughtering, mutilating, or carrying the chicken in such a manner or position as to cause it unnecessary pain or suffering

2.4.5 Keeping alive any chicken which is in a condition that is cruel/inhumane to keep it alive

2.5 Farms with 20,000 broilers and 5,000 layers and above, and breeder farms of any volume shall be registered with the Bureau of Animal Industry. The BAI shall promulgate the necessary guidelines for registration.

2.6 Feeding trials for chickens for scientific purposes shall conform with DA AO 40, series of 1999.

Section 3. DEFINITION OF TERMS

3.1 Attending Veterinarian refers to a licensed veterinarian who is adept in poultry medicine and husbandry. He/She shall be responsible for the veterinary duties related to the farm operations which include, but not limited to, diagnosis, prescription of treatment regimens, compliance with the Generics Law and other legal obligations, formulation of disease prevention programs and

the implementation of good husbandry practices.

3.2 Breeder refers to the bird, either male or female, designed to produce fertile hatching eggs to produce chicks for further breeding or for broiler or layer chick production.

3.3 Breeder Farm refers to the facility where commercial breeder flocks are raised.

3.4 Broiler refers to a chicken either male or female bred to produce meat.

3.5 Brooding refers to the process of providing artificial heat to chicks from day old up to such time the chicks thermo-regulatory mechanism is functional.

3.6 Chick refers to the immature bird up to 30 days of age.

3.7 Chicken refers to the type of poultry domesticated to produce either meat or eggs.

3.8 Cockerel refers to the young male chicken.

3.9 Day - Old Chicks (DOC) refers to newly hatched chicks.

3.10 Down Time Period refers to time between harvest of chicken/culls and placement of day old chicks/pullets. This period is devoted to the cleaning and preparation of the poultry houses.

3.11 Dubbing - refers to trimming of wattle/comb through electro - cauterizing of male breeders to reduce further injury due to pecking and fighting.

3.12 Good Ventilation refers to the process of providing good quality and ample amount of air to the chickens.

3.13 Hen refers to the adult female chicken.

3.14 Layer refers to the female bird bred to produce table eggs.

3.15 Pullet refers to the female layer, which has not reached its laying age or period.

3.16 Rooster refers to the adult male chicken.

Section 4. HOUSING

4.1 Chickens shall be provided with houses and cages that are designed, constructed and properly maintained to provide good ventilation, protection from draft and strong winds, and minimize risks of injuries and disease.

4.2 Advice on welfare aspects shall be sought when new cages or equipment are to be purchased,

new buildings to be constructed or existing buildings to be modified. Such advice is available from qualified advisers with experience in poultry health and management from BAI, DA-regional offices, Philippine College of Poultry Practitioners (PCPP), academic institutions, and training centers. The advisers may be private or government employee.

4.3 Floors and other surfaces shall be so designed, constructed and maintained in order to minimize the risk of injury and disease, and to adequately support the chickens. The chickens shall be provided with enough space to enable them to lie down all at the same time. Please see Appendices I and II.

4.4 Alternative husbandry systems which will enhance the welfare of the chickens shall be adapted when they become available.

Section 5. SPACE ALLOWANCES

5.1 Space requirements for each species, breed, strain and type of chickens shall be followed. It is however, recommended that these standards be able to fit the local climatic conditions. Please see Appendices I and II.

5.2 Stocking density largely depends on the quality and type of housing and the capacity to provide and maintain recommended temperature levels, humidity, removal of noxious gases and proper lighting. In case of a disease outbreak or when behavioral changes are observed, stocking densities shall be immediately evaluated.

5.3 Maximum stocking densities apply only to chickens housed under good management conditions with optimal temperature and ventilation, otherwise lower densities shall apply.

5.4 Recommended stocking densities are found in Appendices I and II.

Section 6. EQUIPMENT

6.1 Chickens shall not be exposed to sharp objects and equipment to avoid injury or pain to them.

6.2 All automatic feeders and waterers shall be checked at least once a day for efficient operation.

6.3 All automated hatchery and environmental control equipment for controlled environment sheds shall have adequate back-up systems and alarms.

Section 7. LIGHTING

7.1 Day-old chicks shall be provided with enough light especially during their first three (3) days in order for them to find food and water. Initially a minimum light intensity of 40 lux is recommended.

7.2 When conducting night inspection, a light intensity of 10 lux may be used to reduce agitation and excitement.

7.3 A standby power supply shall be available.

7.4 Refer to management guides for specific lighting programs found in Appendix III.

Section 8. VENTILATION

8.1 Proper ventilation shall be provided at all times to avoid discomfort to the chickens due to noxious gases, heat, water vapor and dust.

8.2 Whenever possible, the use of ventilating fans and other alternative methods to maintain humidity to approximate the optimal 80% and temperature at 30 °C shall be provided.

8.3 The ideal humidity is 80 % and ideal house temperature is 30 °C.

8.4 Ammonia levels in the poultry houses shall not exceed 20 ppm at the bird level.

8.5 Other noxious gases like hydrogen sulfide, carbon dioxide and carbon monoxide shall be below 5 ppm and 0.3 % respectively. Caution shall be observed in using equipment making use of fossil petroleum.

Section 9. TEMPERATURE

9.1 For Newly hatched Chicks

9.1.1 Since newly hatched chicks have poor ability to control body temperature, supplementary heat source shall be available to bring the environment temperature to a comfortable level.

9.1.2 Supplementary heat at gradually reducing levels may be required up to 4-5 weeks of age depending upon the behavior of the chicks and the environmental conditions.

9.2 For Growing Adult Chickens

9.2.1 Chickens shall be protected from draft during cold weather and provided with shade during

hot weather.

9.2.2 During hot weather, cool drinking water shall be available at all times. When extremely high temperatures cause distress to the chickens, ventilating fans or other cooling systems shall be readily available.

9.2.3 Recommended stocking densities shall always be followed to allow the chickens to facilitate body heat loss such as panting, standing erect with wings held away from the body and raising the scapular feathers in hot weather.

9.2.4 Nest boxes shall be properly positioned and constructed such that they do not become heat traps.

9.2.5 As extreme weather conditions may occur, housing facilities for poultry shall be able to maintain temperatures between 19-33°C at all times.

Section 10. PROTECTION

10.1 Chickens shall be protected from predators, stray animals and other birds that may inflict harm, food competition or disease transmission.

10.2 Site of poultry houses shall be properly chosen taking into consideration the risk of floods, typhoons and fires.

10.3 In building new houses, it is preferable that construction materials with high fire resistance be chosen and electrical and fuel installations shall be properly planned to minimize the risks of incidence of fire.

10.4 Poultry houses shall be provided with adequate fire-fighting equipment.

10.5 Sufficient exits shall be accessible to facilitate evacuation of chickens from buildings in cases of emergency.

Section 11. FEEDS

11.1 Newly hatched chicks shall have access to feeds at least twenty four (24) hours to no more than forty eight (48) hours / two (2) days after hatching.

11.2 Growing and adult poultry shall have access to feeds at least once every twenty four (24) hours.

11.3 Diets of chickens shall contain adequate nutrients to meet their requirements for growth, maintenance, health and vitality. Standard nutrient requirements for the breed, strain and type shall always be followed.

11.4 When using mechanical systems of feeding, alternative manual feeding systems shall likewise be available in case of power failure.

11.5 There shall be enough feeding space per bird and breeder companies' recommendations shall be followed. For birds in cages, a trough space of no less than 10 cm per bird is recommended.

11.6 Refer to Appendices I and II for recommended feeder spaces.

Section 12. WATER

12.1 Sufficient, potable water for the chickens shall be available at all times.

12.2 Newly hatched chicks shall not go without water for more than seventy two (72) hours from hatching. Upon introduction of water, water guard shall be in place to prevent bathing or drowning of chicks.

12.3 A day's water requirement shall be stored in case of water shortage.

12.4 Water shall be tested for chemical content and microbiological counts annually. Refer to Appendix IV.

12.5 Each bird shall have access to at least two drinking points. Never exceed the breeder companies' recommendation on the number of birds per drinker. For adult fowl in laying cages, at least ten (10) cm. of trough space should be provided for each bird.

12.6 Refer to Appendices I and II for recommended waterer space.

Section 13. Animal Health Consideration

13.1 Freedom from injury and disease is a basic freedom of all animals.

13.2 The Rules and Regulations to implement the prescribing requirements for the Veterinary Drugs and Products under the Department of Agriculture -Administrative Order 39 (DA-AO 39) and Department of Health - Administrative Order 111 - B (DOH - AO 111 - B) Series of 1991 prescribes the proper procedures for the acquisition or purchase of veterinary drugs and biologicals to ensure that medicines used for chicken are appropriate and correct and that there

will be no abuse when they are used especially antibiotics which will affect humans as well.

13.3 The chicken farm management shall comply with the above DA AO-39 and with DOH-AO 111-B which includes a "Veterinary Client-Patient Relationship" (VCPR) and a "Veterinary Drug Order" (VDO).

13.4 A log book shall be kept by each farm. The health program of the chickens, the date when chickens were treated, vaccinated, dewormed and other observations, activities and recommendations shall be recorded in the book by the attending veterinarian and other competent technical and management personnel.

13.5 The log book shall include the name and address of the farm, current animal population, flock history as well as the name of the attending veterinarian with his PRC license, PTR, and TIN.

Section 14. HEALTH

14.1 Those responsible for the care of domestic poultry shall be aware of the signs of disease or distress. Signs of disease in the chickens include reduced feed and water intake, reduced production, changes in the nature and level of their activity, abnormal condition of their feathers or droppings, or other physical features. Evidence of behavioral changes may indicate disease or distress or both.

14.2 Poultry raisers shall employ an effective health program approved by the poultry veterinarian to prevent infectious disease and internal and external parasitism. Vaccination shall be performed by skilled personnel under the supervision of the attending veterinarian.

14.3 Adjustments shall be made when outbreak of feather picking or cannibalism occur. The following shall be implemented: reducing the stocking density, light intensity, temperature, humidity. Disturbances to the pecking order, removing injured chickens may be facilitated/remedied by removing chickens observed to be instigating pecking, or eliminating shafts of bright sunlight.

14.4 Dead chickens shall be removed immediately and disposed of properly and hygienically. Treatment given to the chicken and their response to treatment shall be recorded and kept to assist disease investigators.

14.5 Only veterinary drugs approved by the appropriate regulatory agency shall be administered. Administration shall be under the direction of the attending veterinarian.

14.6 Chickens with incurable disease, zoonotic diseases or significant deformity shall be removed from the flock and humanely destroyed immediately.

14.7 Poultry houses, premises and equipment shall be thoroughly cleaned and disinfected before

restocking. Proper down time periods shall be observed upon recommendation of the attending veterinarian.

14.8 Buildings shall be constructed and maintained to restrict the entry of stray animals, birds, rodents and predators.

14.9 Outbreaks of communicable and zoonotic diseases shall be reported immediately to the appropriate agency.

Section 15. INSPECTIONS

15.1 The frequency and level of inspection of the chickens shall be done no less than once a day. Inspections are best made separately from other management practices. Under certain circumstances more frequent inspection may be required, such as during hot weather or during outbreaks of disease. Dead or injured chickens shall be immediately removed from the flock for disposal or appropriate treatment.

15.2 Automatic waterers and feeders shall likewise be checked on a regular basis for their effectiveness.

15.3 When chickens are in cages, it shall be possible to inspect all birds in each tier easily and routinely.

15.4 Chickens shall be checked regularly for evidence of parasites. Necessary treatment as prescribed by the attending veterinarian shall be given.

Section 16. MANAGEMENT PRACTICES

16.1 Artificial Insemination (AI) is a highly skilled procedure. It shall be carried out only by competent and trained personnel maintaining a high standard of hygiene and taking care to avoid injury or unnecessary disturbance to the chickens.

16.2 Beak trimming shall only be performed by a competent and trained technician and shall be performed within three (3) weeks of age. Operators shall not remove more than one-half of the upper beak and one-third of the lower beak. Subsequent beak-trimming shall be done only to prevent cannibalism. Guidelines on proper beak-trimming shall be adhered to at all times.

16.3 Should it be necessary to dub the chickens, it shall be performed by competent operators soon after hatching, preferably within seventy hours (72) hrs.

16.4 Sharp spurs on adult males shall be trimmed to prevent injury to other birds and handlers.

16.5 The use of blinkers and other vision impairing equipment is not recommended except when other measures to control cannibalism have failed. If ever used, competent operators shall apply blinkers. Blinkers that cause mutilation of the nasal septum shall not be used.

16.6. Castration or surgical caponizing is an unacceptable non-medical practice and shall not be performed.

16.7 Devoicing is an unacceptable practice and shall not be undertaken

16.8 Any form of flight restriction like dewinging, pinioning, notching, or tendon severing are unwarranted practices and shall not be performed.

16.9 Forced molting in chicken is unacceptable while controlled feeding practices shall only be carried out on healthy birds under close management supervision.

16.10 Wing and leg bands used for bird identification shall be checked regularly and when necessary loosened or removed to avoid injury to the bird. Webbing between the toes may also be used for identification by marks made within seventy-two (72) hours of hatching.

Section 17. HATCHERY MANAGEMENT

17.1 Hatchlings or day-old chicks shall be handled gently when they are transferred from the hatcher to the chick room.

17.2 The room where the chicks are processed shall be well ventilated.

17.3 Chick boxes shall contain the recommended number of chicks to avoid over crowding and suffocation of the hatchlings.

17.4 When chicks need to be vaccinated, vaccination shall be done by expert personnel with the proper equipment to minimize stress.

17.5 The chick vans shall be sufficiently ventilated and if possible equipped with fans. The vans shall not be overloaded in order to ensure air circulation inside.

17.6 Culled and excess chicks shall be disposed of in the most humane way possible. Thorough inspection shall be done to ensure that all birds are dead.

17.7 Hatchlings shall be brooded within seventy-two (72) hours of hatching. Weak, deformed and unthrifty birds shall be culled and destroyed humanely.

17.8 Young birds in brooders shall be inspected at least twice every twenty four (24) hours and appropriate actions shall be taken should there be deficiencies in husbandry.

17.9 Hatchlings and day-old chicks shall be observed for signs of communicable and infectious disease. Laboratory tests shall be conducted if deemed necessary.

Section 18. TRANSPORT OF DAY-OLD CHICKS (DOC)

18.1 In order to ensure that day-old chicks remain healthy and vigorous, they shall be placed in properly ventilated carton boxes or plastic crates without overcrowding. The number of chicks per box shall range from 80 to 100 head depending on the size of the box, weather and transport conditions. In order to ensure proper ventilation, it is recommended that a maximum of 10 stacking boxes be observed while loading or stacking them.

18.2. The standard size for the chick box is: height 16.5 cm; width 52 cm; length 62.5 cm, which is capable of holding 100-day old chicks. Care shall be taken to ensure the ventilation of the boxes particularly when they are stacked. A maximum stacking of 10 carton boxes or 12 plastic crates when loaded inside the chick van is recommended.

18.3 The chicks shall be protected from direct sunlight and cold drafts. The chick vans shall be equipped with ventilating fans (minimum of 4), which shall be turned on at least 5 minutes before loading to remove stale air. Deliveries or transfer shall be done during the night when the climate is cooler.

18.4 Packing materials used inside the boxes or crates shall be new, clean dry and non-toxic. Paper trimmings are recommended.

18.5 The stocking density for DOC for transportation shall not be less than 25 square centimeters per bird.

18.6 If the boxes or crates for transferring/transporting DOC have dividers, these dividers shall be properly secured and sufficiently stable to prevent entrapment and injury of the chicks.

18.7 Boxes for delivery shall indicate date and time of hatch and dispatch and written instructions shall be provided on required holding conditions for the attention of those responsible for transportation.

18.8 DOC shall be brooded as soon as possible after delivery and supply of fresh water be made available.

Section 19. TRANSPORT OF GROWING AND ADULT CHICKEN FROM FARM TO FARM

19.1 Chicken shall be herded for transport under the supervision of a competent person. Operations shall be done at night or early morning (before sunrise).

19.2 The chickens shall be handled gently and crated carefully. They shall not be held by the feet

with head upside down.

19.3 Sick or injured chickens shall be separated from the healthy ones and should be treated and/or culled.

19.4 The hauling crates or cages shall be so designed to prevent escape of the chicken and the protrusion of their heads or any part of their bodies. They shall be of sufficient height to allow the chicken to stand, move and seek comfort.

19.5 The cages shall be properly arranged to ensure proper ventilation.

19.6 Crates shall be so designed to provide proper ventilation. They should be of sufficient height to allow chickens to stand and sit in comfort but compact enough to prevent injury during transport. Crates shall be designed and maintained to allow chickens to be put in and taken out without injury. The standard measurement of plastic crate: is length 77cm; width 57 cm; height 29 cm.

19.7 Transport vehicles shall be designed to protect birds in crates from wind and rain and from extreme weather conditions.

19.8 Chickens shall not be held in crates or enclosures for longer than twenty four (24) hours unless they are assured of access to food and water. It is recommended, when a delay is anticipated and holding time is likely to significantly exceed twenty- four (24) hours that suitable arrangements are made.

19.9 Contingency plans shall be in place to minimize any delay that could be stressful to the birds as a result of transport and to minimize any distress to the birds.

19.10 The welfare of the chickens during transport shall be a joint responsibility of the owner and transport driver.

Section 20. TRANSPORT OF CHICKEN TO DRESSING PLANTS

20.1 The chicken that are scheduled for harvest shall not be fed at least six (6) hours prior to loading. They shall be given fresh water to prepare them for the travel.

20.2 The herding of the chicken for harvest shall be supervised by a competent person.

20.3 The chicken shall be held by the legs and not by the wings while transferring them from the poultry house to the crates.

20.4 The hauling crates or cages shall be so designed to prevent escape of the chicken and the protrusion of their heads or any part of their bodies. They shall be of sufficient height to allow

the chicken to stand, move and seek comfort.

20.5 The cages shall be properly arranged to ensure proper ventilation.

20.6 In case of steady wind and rain, the cages shall be covered in order to protect the chicken.

20.7 The chicken shall not be held in crates or containers for longer than twenty four (24) hours.

20.8 Contingency plans shall be in place to minimize and/or handle any transport delay that could be stressful to the birds.

Section 21. SALE OF CHICKEN

21.1 Chicken for sale purposes shall be unloaded immediately once they have reached their destination.

21.2 Stocking densities in cages in the slaughtering plant and market shall not exceed those densities recommended in the appendices by more than 50% for more than twelve (12) hours.

21.3 Chicken shall not be held in sale yards for more than twenty-four (24) hours.

21.4 Chickens shall not be left without water for more than eight (8) hours.

21.5 In public markets and other areas of commerce, the tying of the legs of the chickens shall not be more than three (3) hours. They shall not be kept upside down. This applies to all kinds of birds, such as but not limited to, ducks, turkeys, geese, etc.

21.6. Chickens shall be placed in shaded areas while being displayed for sale.

Section 22. POULTRY SLAUGHTERING

22.1 Care shall be observed at the farm level during catching of the chickens. Dim lights or blue lights shall be used when catching to reduce the struggling of the birds.

22.2 The hauling crate shall contain only the maximum recommended number of chickens.

22.3 The chickens shall not be roughly handled during catching.

22.4 Sufficient ventilation in transport vehicles shall be ensured.

22.5 The stacks of hauling crates shall be well spaced to provide ample air movement, while the

chickens are at the live chicken docking area.

22.6 To avoid injury to the chickens, the chickens shall not be roughly handled while they are hang on the shackles.

22.7 The stunning machine shall be set appropriately to avoid prolonged struggling of and injury to the chickens.

22.8 Chickens shall be immediately bled after stunning and shall no longer be alive by the time they reach the scalding machine.

Section 23. PENAL PROVISIONS

Violation of any of the provisions of these Rules and Regulations shall be penalized in accordance with the law.

| Section 24. SEPARABILITY CLAUSE

In case any provision of this Rules and Regulations is declared contrary to law and/or unconstitutional, other provisions which are not affected thereby shall continue to be in force and in effect.

Section 25. REPEALING CLAUSE

All Administrative Orders, Rules and Regulations and other administrative issuance or parts thereof, inconsistent with the provisions of these Regulations are hereby repealed or modified accordingly.

Section 26. EFFECTIVITY

These Rules and Regulations shall take effect fifteen (15) days after publication in a newspaper of general circulation.

(Signed)
Leonardo Q. Montemayor
Secretary

Appendix 1

FEMALE BROILER BREEDERS Floor Space and Equipment Requirement from 0 to 20 Weeks

Density	5 pullets/available square meter
brooders (starting)	1 for 500 chicks *
Feeders: -	
chain	14 cm feeder space per pullet (7 m length for 100 pullets)
- pans (35 cm diameter)	1 for 12 pullets
Drinkers: ** -	
round	1 for 70 pullets
- nipples (flow: 120 ml/minute minimum)	1 for 6-8 pullets
Maximum feed distribution time	4 minutes
Ventilation capacity	8 cu m / kg of body weight / hour

* 1 brooder for 500 chicks. Diameter of the breeder surrounds 2.5 m / 500 chicks.

** 1 drinking point and one feeding point for 50 to 70 chicks.

When nipples are used from 1 st day, provide at least 1 nipple for every 20 chicks and place corrugated paper under the drinking lines with some feed scattered on it to attract the chicks.

Floor Space and Equipment Requirement in Production

Density	3.5 to 4 hens/square meter
Feeders: -	
chain	15 cm feeder space per hen (7.5m length for 100 hens)
-pans	for 12 hens
Drinkers:	
bell type	1 for 65 to 75 hens
- nipples (flow: 120 ml/minute minimum)	1 for 5-6 hens
Maximum feed distribution time	6 minutes
Nests: -	
- manual	1 nest / 4 to 5 hens
- automatic	35 to 40 hens/linear meter
Ventilation capacity	8 cu m / kg body weight / hour
Maximum light intensity	60 lux

Appendix II

Male Broiler Breeders Floor Space and Equipment Requirement

	Rearing Period	Breeding Period
Density	4 males / square meter	
Number of males /100 hens		
kooders (starting)	1 for 500 chicks	
Feeders: -chain ; - pans (35 cm diameter)	15 cm access per male (7.5 m length /100 males 1 for 10 males	20 cm access per male (10m length/ 100 males 1 for 10 males
Drinkers: - bell type - nipples (flow: 120 ml/minute minimum)	1 for 80 males 1 for 10 males	1 for 70 males 1 for 8 males
Maximum feed distribution	4 minutes	4 minutes
Ventilation capacity	5 cu m/kg bodyweight/hr	5-8 cu m/kg bodyweight/hr

Appendix III

LIGHTING Dark Reading House and Non-dark Production House

AGE DAYS	WEEKS	INTENSITY (lux)
1		60
2		60
3		40
4		30
1 5		20
6- 140		5

141 - 147	21	40 minimum
148 - 154	22	40 minimum
155- 161	23	40 minimum
162 - 168	24	40 minimum
169 - 175	25	40 minimum
176 - 182	26	40 minimum
183 - 189	27	40 minimum
190 - end	28 - end	40 minimum

Dark Rearing House and Dark Production House

AGE DAYS	WEEKS	INTENSITY (lux)
1		60
2		60
3		40
4		30
5		20
6		15
7		10
8		5
9-140		5
141 - 147	21	40 minimum
148 - 154	22	40 minimum
155- 161	23	40 minimum
162 - 168	24	40 minimum
169 - 175	25	40 minimum
176 - 182	26	40 minimum
183 - 189	27	40 minimum
190 - end	28 - end	40 minimum