

# THE SOUTH AFRICAN POULTRY ASSOCIATION ABRIDGED CODE OF PRACTICE: COMMERCIAL LAYERS

The following is a summary of the minimum standards to be followed for Commercial Layer Farms as set out in the Code of Practice of the South African Poultry Association. The full version is available on the SAPA website [www.sapoultry.co.za](http://www.sapoultry.co.za)

## Introduction

Poultry producers should be aware of the responsibility to farm with disease free birds, since the eggs produced should at all times be fit for human consumption. An effective program should be in place to prevent infectious and vertically transmittable diseases being transmitted within the poultry production chain and especially diseases and pathogens, which could affect consumers of eggs and egg products.

Staff shall understand and accept responsibility to prevent the unnecessary suffering of birds in their care. Operators shall be satisfied that staff responsible for birds have the skills necessary to perform any required procedure without causing suffering.

## Housing of Rearing Pullets

Table 2.1: Commercial Layer Type Birds being reared in Cage Systems

Age (Weeks)	Weight (g)	Cm <sup>2</sup> per bird	Feed Trough (cm/bird)	Water Nipples (birds/nipple)
0 - 6	500	150	2.25	15*
7 - 18	1450	300	4.5	8*

\*Birds must have access to at least two nipple drinkers

Table 2.2: Commercial Layer Type Birds being rearing in floor systems

Age (Weeks)	Weight (g)	Hens (birds/m <sup>2</sup> )	Feed Trough (cm/hen)	Pan or Tube Feeders (birds/feeder)	Water Trough (cm/hen)	Nipple Drinkers (hens/nipple)
0 - 6	500	24	2.5		1.25	20
7 - 20	1450	12	3.5	33	1.25	12

In the case of cage systems the cage height shall permit standing chickens free head movement, cage doors shall allow for easy insertion and removal of birds, the cage floors shall not cause any injury or deformity during the rearing of pullets and cage floors shall preferably be covered with temporary supportive flooring such as paper or matting for the chicks during the early brooding period.

Chicken house flooring shall allow for effective cleaning and disinfecting, preventing significant buildup of parasites and other pathogens.

## Housing of Layers in Cage Systems

Layers in intensive egg production systems are to be kept in specially designed cages in which birds are safe and in which they have free access to feed and water.

Table 3.1: Space Requirement for Commercial Layer Type Birds kept in cages

Age (Weeks)	Weight (g)	Cm <sup>2</sup> per bird	Feed Trough (cm/bird)	Water Nipples (birds/cup or nipple)*
18 weeks plus	1500g plus	450	10	5

\*Birds must have access to at least two nipple drinkers. Cage height shall permit standing chickens free head movement.

The cage doors shall allow for easy insertion and removal of birds and be free of protrusions permitting the removal of birds without causing injury. Doors shall not be less than 20cm wide and 20cm high. Cage floors shall not cause any injury or deformity and shall allow eggs to roll out freely without getting stuck or damaged. Chicken house flooring shall allow for effective cleaning and disinfecting, preventing significant buildup of parasites and other pathogens. Escapee birds should not be placed into cages which already contain the correct number of birds.

## Housing of birds in Free Range and Barn Egg Systems

Birds in these systems should be able to express the five basic freedoms identified by international research. These freedoms require that livestock are:-

- Free from hunger and thirst via the availability of fresh water and the appropriate feed.
- Free from abnormal discomfort via the provision of adequate shelter.
- Free from abnormal pain, injury or disease via the provision of appropriate prevention or alternatively, rapid diagnosis and treatment, of normal pathological conditions.
- Allowed to express natural behaviour by providing sufficient space in suitable facilities and in the company of the animals' own kind.
- Provided with conditions and care which avoid undue suffering and thus permit freedom from fear and distress.

## Barn System and Free Range Systems

Birds in barn systems are free to roam within the confines of a shed. The floor may be based on litter and/or other material such as slats or wire mesh. Birds in free range system are housed in similar sheds as barn systems but have access to an outdoor range as well.

## Internal Environment

The space guidelines for the poultry shed used in free range and barn systems are set out in Table 4.1.

Table 4.1: Poultry Sheds used for Free Range and Barn Egg Production

Age (Weeks)	Birds/m <sup>2</sup>	Feed Trough (cm/bird) Feeding both sides	Pan or Tube Feeders (birds/feeder)	Water Trough (cm/bird)	Bell Drinkers (birds/drinker)	Water Nipples (birds/cup or nipple)
Adult	10	10	40	1.25	100	10

The poultry shed must be constructed so that it provides for the welfare needs of the birds, whilst simultaneously providing protection from bad weather and both physical and thermal discomfort. Where open-type housing structures in excess of 6 meters wide are used, provision should be made for ridge openings to facilitate ventilation.

Where housing is predominantly enclosed, ventilation by fans with a minimum airflow of 8 cubic meters per hour per adult hen is required. Litter must be provided on at least 33% of the floor area. Such litter must be of sufficient quality and quantity to allow for the proper dilution of droppings and to allow birds to dust bathe. In houses with appropriate perching/roosting facilities, stocking densities may be increased to 12 birds per square meter.

Such perches must be provided at not less than 15cm per hen and must incorporate a gap on either side of no less than 1.5cm in order to allow hens to grip the perches without injury to their claws. For the purposes of interpretation, perches will include the alighting rail immediately in front of nest boxes (if applicable).

Adequate nesting facilities must be provided in order to discourage birds from laying eggs on the floor. Where individual nest boxes are provided, this should not be less than 1 nest per 8 hens. Where communal nests are provided, this should not be less than 1 square meter nest floor per 125 adult hens. A lighting system for the provision of a minimum period of 9 hours continuous light in each period of 24 hours must be provided. Such light will either be artificial or via access to daylight. A minimum light intensity of 10 lux throughout the house during this time must be maintained. A minimum period of 8 hours continuous darkness per 24-hour cycle must also be provided in order to accommodate the birds' requirement for adequate rest.

## External Environment

The stocking rate of the external range should not exceed 5 birds per square meter. The range must be maintained in a manner that allows for a minimum of 50% living vegetation present at all times. The practice of rotational grazing is a desirable, which allows for the active management of damaged ground, as well as minimizing the risk of a build-up of parasites. External shade by way of either trees or artificial structures must be provided at the rate of 4 square meters shade per 1 000 birds. Fencing should be adequate to provide protection from predators. Domestic animals such as dogs and cats must not be allowed into the enclosed range area.

## Cleaning and House Preparation

Attention should be paid to thorough cleaning of the building following depopulation and should include the complete removal and disposal of litter from the poultry building and surrounding area. Following cleaning and disinfecting of the building (including all equipment contained within the building) a sanitary break will assist in avoiding any carry-over of disease to the next flock. Preparation of the building and equipment for the next batch of chickens should always be complete and all equipment fully maintained and operational in time to receive the next group of birds.

## Management Practices

### Receiving of Stock

Optimum temperature varies for different species, breeds and age. The operators should be aware of the specific requirement under their control. Birds should have been transported in accordance to the code for transporting of stock. Birds shall be removed carefully from the transport containers. Older birds should be handled by supporting them under the body or by grabbing both legs. No more than three birds must be carried in one hand, and by holding both legs. Any birds that have been injured during the transport must be placed in a separate area to recover, or if impractical or if recovery is unlikely, must be humanely killed. For flocks to qualify for Free Range or Barn production classification, layers must be introduced to the Free Range or Barn system at no later than 130 days of age.

### Temperature Control

Subject to housing insulation, breed and seasonal variations supplementary heat at gradual decreasing levels is to be applied when brooding chicks until no longer required. Bird behaviour is the best indicator of bird comfort. Where extreme high temperatures are experienced, especially under climatic conditions of high humidity, procedures such as increased ventilation and air flow over birds, evaporative cooling equipment, reduced stocking density and supply of cool water, should be considered to deal with such extremes. Low temperature conditions should not be overcome at the expense of minimum rates of ventilation. It is advisable to have a temperature alarm system installed to warn operators of high and low temperature conditions for corrective action to be taken and it is advisable to record daily maximum and minimum house temperature levels.

## Ventilation Control

A minimum rate of ventilation is required at all times to provide fresh air and to remove moisture and other metabolic gases from the building. This minimum rate of ventilation would be dependent on the biomass in the building and the operator shall be aware thereof and trained in setting up the control system. With open sided buildings the operator shall be fully trained in how to set the curtains or whatever natural ventilation control exists under varying climatic conditions. Carbon dioxide levels should be kept below 3000 ppm (3%) and a level of 10 to 15 ppm of ammonia can be detected by smell and once this level is reached, corrective action should be taken. Mechanical ventilated buildings should have a back-up power supply or alternative emergency ventilation systems linked to an alarm system to warn operators of power failure.

## Light Control

Chicks are started at higher light intensity around (20 lux) for the first couple of days in order to learn to find the feed and drinker systems. Thereafter commercial rearing pullets are reared on varying light intensity down to 2 lux depending on the housing conditions and breed. The light intensity should be adequate to allow for birds to feed normally and allow for thorough inspection of the flock. A minimum artificial light intensity of 10 lux shall be aimed for within any given point in systems where adult birds are kept for the production of table eggs. Sudden changes in intensity should be avoided as this could lead to flight reaction in some birds. Various lighting programs and light intensity for commercial layer birds are prescribed by suppliers of breeding stock and the operator shall be aware of the appropriate program to be applied. The total light period (artificial plus natural light in open sided houses) shall not exceed 20 hours in the 24 hour day.

## Feed

Newly hatched chicks must be provided with food within 48 hours of hatching. Birds should receive a diet that contains adequate nutrients to meet the daily requirement for good health and vitality and in sufficient daily quantities to enable an increase in body weight gain and production, which is in accordance with the breed specifications. Feed should preferably be stored in closed containers and access for vermin and wild birds should be prevented.

## Drinking Water

Newly hatched chicks should receive water within 48 hours of hatching but sooner during hot weather. Birds should have access to sufficient potable water to meet their daily physiological requirements. Water should be below a temperature at which birds refuse to drink. The water should be regularly tested for chemical content as well as microbial contamination. Where conditions so dictate, adequate provision must be made for the continuous supply of water in sub-zero temperature.

## Beak Trimming

The practice of professionally performed beak-trimming is internationally recognized as being a humane alternative to the appalling effects of cannibalism. The continuing need for beak-trimming is being constantly reassessed and it is accepted that as soon as the causes and possible alternate means of preventing cannibalism have been identified, the phasing out of this practice will be a welcome development. Beak trimming must be performed only by a trained operator who is completely competent in the procedures using equipment that has been properly maintained.

## Supervision

Bird supervision should only be performed by adequately trained staff. Birds should be inspected at least twice every 24 hours and corrective action taken to correct any husbandry deficiencies detected. Inspection frequency should be increased during periods of adverse conditions such as high or low temperature or ill health. During such checks particular attention should be given to bird comfort and proper functioning of all equipment. Any malfunctioning equipment should be attended to and corrected immediately.

In floor systems any wet litter should be removed immediately and corrective action taken as to the cause of the wet litter. Litter should not be allowed to become caked and hard. In cage systems manure will be removed in accordance with the particular system in use. During flock inspection any sick or injured birds are to be treated promptly or killed humanely by means of dislocating the neck and conducted by personnel who have been trained to do so.

Dead chickens are to be removed daily and disposed of in an appropriate manner. Flock supervision should include periodic checks for the presence of internal and external parasites. Should such parasites be detected, corrective treatment must be administered immediately. Live chickens with clinical signs of disease or flocks with abnormal high mortality rates shall be handed over to a veterinarian or diagnostic laboratory for diagnosis and recommendations for treatment should be followed immediately.

## Access to External Environment

In Free Range production, birds must have access to the external range for a minimum of 8 hours per day, during natural daylight hours. It is accepted that it is counter-productive for birds to be outside during periods of extreme weather. Routine external access may therefore be restricted at such times. In Free Range production, access to the external range should be provided by means of doors, gates or popholes. When popholes are used these should be at least 35 cm high and 40 cm wide and allowance must be made for at least 2 meters per 1000 birds.

## Egg Collection

Eggs should be collected regularly (at least once per day) and placed in clean and dry handling equipment in such a manner that cracks are avoided. In the case of cage systems the cage floors and the egg handling system should be kept clean and in Free Range and Barn systems the nest boxes and nest material should be kept clean. Dirty, broken, cracked, leaking and any other abnormal eggs should be collected in separate equipment and should not be used for human consumption. Eggs should be stored in appropriate holding rooms in which temperature fluctuation is kept to the minimum.

## Mouling of Birds

Methods of moult inducement which deprive birds of water for more than 24 hours or feed for more than 48 hours **shall not be allowed**. The use of high fibre diets is acceptable provided that birds consume at least 40 to 60g per day. Induced mouling shall only be carried out on healthy birds under close management supervision and conditions that will not cause undue stress. Mouling shall not be artificially induced in any Free Range or Barn production.

## Health Control

### Layer Facilities

The building should preferably be single purpose entity and ideally operated on an all-in, all-out replacement basis with a single age group. The farm or site should be fenced off by at least a stock fence and no grazing animals should be allowed within the perimeters of such fence. The area immediately surrounding the poultry houses must be free of vegetation and debris and if grass is grown between buildings, it must be kept short. Appropriate biosecurity measures for all staff and visitors entering the premises, which should include showering and changing of clothes must be adopted. Change of clothes is regarded as being the absolute minimum measure to be applied for pullet rearing farms. Buildings must be free of vermin and not accessible to vermin and wild birds. Vermin and wild birds must not have access to feed storage. Domestic animals must not be allowed access to the fenced area.

## Flock Health

Management should have ready access to a veterinarian who is experienced in dealing with poultry. The environment provided must be conducive to good flock health as well as providing the necessary protection from pain, injury and disease. Operators responsible for the care and wellbeing of poultry should be aware of the signs of ill-health or distress and corrective action implemented immediately. Where causes of ill-health or distress cannot be identified professional advice from veterinarians or other trained and qualified advisers should be sought. All medication should be prescribed by a qualified veterinarian and such medication should be applied strictly in accordance with manufacturer's instruction unless otherwise advised by the veterinarian concerned. Birds with an incurable sickness or deformity should be removed from the flock and killed humanely by a competent person properly trained to do so.

## Records

Vaccination, health and any laboratory records shall be kept for all flocks. Such records shall be kept for inspection for the normal expected lifetime of the birds or flock.

## Vaccination

Producers involved in the production of commercial pullets intended for the use in producing eggs for human consumption should operate an effective program as advised by a veterinarian with poultry experience to prevent outbreaks of infectious disease, especially diseases and pathogens which could affect humans. Vaccinations and other treatments prescribed by a veterinarian shall only be undertaken by properly trained and skilled staff.

## Blood Testing

Regular serological testing of flocks as may be prescribed by a qualified veterinarian is advisable in disease control. The health status, serological test results and vaccination program applied should be made available to the customers of farms producing point of lay pullets which are intended to be used for the production of table eggs.

## Parasite and Vermin Control

Birds kept in intensive systems are often subjected to a buildup of parasites. Appropriate control measures as advised by a veterinarian should be in place to combat such infestation. Birds should be constantly monitored for other internal parasites such as worms and corrective treatment measures taken as prescribed by a veterinarian. A well planned vermin control program should be in place taking in account particular circumstances of the operation. Fly breeding should be controlled to the very minimum. The cleaning and disinfecting program followed at the end of the cycle should incorporate the application of an insecticide to control litter beetle infestation.



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