

INDIGENOUS POULTRY MANAGEMENT



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Figure 1. Poorly managed poultry farm

2. Improved Semi-free range production

Depending on the season indigenous chicken under improved free range systems scavenge for part of their feed from the surrounding and are supplemented using local feeds. However, birds need extra nutrients in order to gain weight and for hens to lay more eggs. Likewise chicks need protein rich feeds such as balanced starter feeds or simple supplementary sources such as omena fish and termites etc.

An indigenous hen often weighs 1.2–1.5 kg at the point of lay while a cockerel weighs 1.4–2.0 kg at maturity. Often a free-range hen will lay the first egg at

28 weeks (6-7 months) of age and lay 3-4 clutches of 10-15 eggs a year depending on season and availability of feeds. Eggs hatch after 21 days of incubation although long broody periods reduce egg production.

MANAGEMENT FOR IMPROVED PRODUCTION

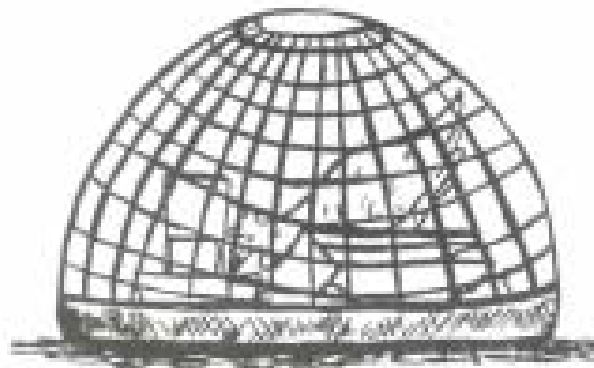


Figure 2. Housing for up to 5 hens (Night basket)

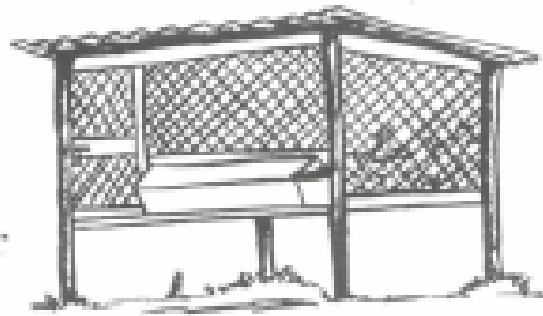


Figure 3. Housing for a flock of 10-20 birds

A simple night-basket or chicken house (Fig. 2 and 3) will reduce losses due to adverse weather conditions, predators and thieves. Inside the house birds are provided with perches to sit on when resting/sleeping. Additionally laying nests should also be provided inside the house for easy location/collection of eggs for safe storage. To produce fertile (hatching) eggs a poultry farmer needs one cock for every 10-15 hens. Once surplus cocks hatched on the farm reach marketable size/weight, they should be disposed off through sale, slaughter, or as gifts to prevent them from depleting the scarce feed resources as well as fighting (cannibalism), inbreeding and stressing the hens (Fig 4). Young cocks maybe recognized by their tail feathers, comb and their general (aggressive)

behaviour and appearance in comparison to the hens.



Figure 4. Undesirable cock fighting may be avoided by selling of unwanted cocks.

Flock sizes should match the household needs, the amount of feed available/affordable and the feed resources in the environment (scavenging feed resource base). Never introduce live birds from the markets or from other sources into your flock. They may introduce contagious diseases into your flock, especially during periods when outbreaks of diseases are common. Vaccinate all

birds against Newcastle Disease and other prevailing diseases such as Fowl Pox on a regular basis to prevent mortality.

Young chicks should be vaccinated against common contagious diseases at the age of 2-3 weeks. Revaccination should always be performed according to instructions given by the local veterinary staff. Report all cases of disease outbreaks to the nearest veterinary office. As a precaution separate and isolate sick birds from the healthy ones. Depending on the disease cull/kill all sick birds and burn or bury them deep enough to avoid dogs and other animals from digging them up and spreading diseases. Do not introduce new birds into a sick flock and do not vaccinate a sick flock.

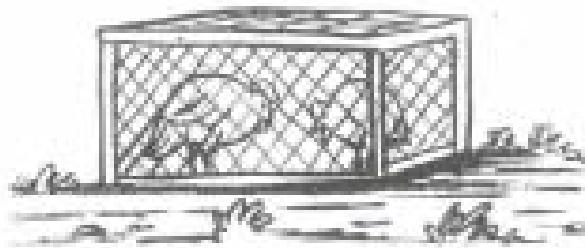


Figure 5. Isolate ill or newly purchased birds.

If you must introduce live birds to your flock, you should keep them isolated under observation for one to two weeks (Fig.5).



Figure 6. Daily observation of flock

It is important to spend time each day observing every bird carefully (Fig 6). In this way early signs of disease, starvation, brooding, or other problems may be detected, and the necessary precautions taken. Knowing each bird/hen will also assist in selecting eggs for hatching. Eggs for sale or hatching should be collected in the morning and again in the evening to avoid contamination and cracking. This also discourages hens from going broody. Eggs should be stored in a cool and humid place until sales are made or incubation is done.

In order to prevent internal/external parasites good hygiene must be observed (Fig 7). Feeders and drinkers should be washed while houses and nests must be cleaned off droppings, insects and other unwanted materials daily. When applicable put clean/fresh beddings (straw, hay, woodshavings etc) in the laying nests weekly. Adding a little ash on top may help prevent parasites.

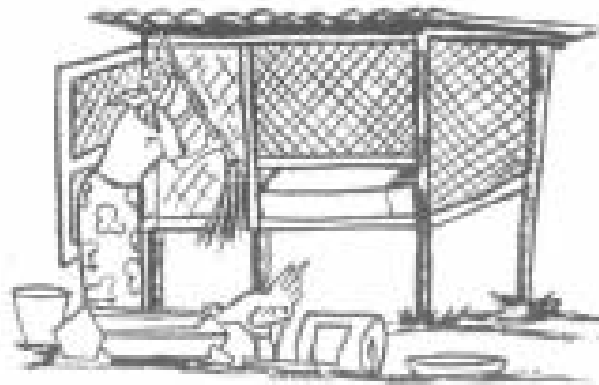


Figure 7 Clean house, feeders and drinkers daily

At least once a year especially after an outbreak of disease, chicken houses, perches, and nests should be disinfected by thorough cleaning and ash or lime-washing (figure 8).

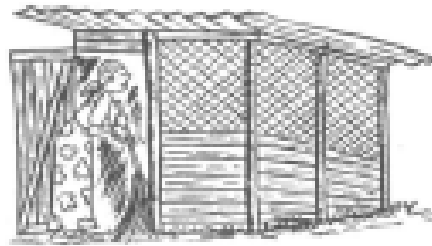


Figure 8. Ash or lime-washing inside the chicken house to disinfect

Indigenous chicken should have access to a dry place for dust bathing. If they prefer a certain place, ash maybe added to reduce parasites. Problems such as hens pecking each other mainly occur among congested flocks or when birds are kept inside during the day for long periods. Wounds from pecking should be treated immediately to avoid cannibalism in the flock.



Figure 9. Pecking often occurs when birds are confined inside for long periods

It is advisable to keep records of your flock production. This will make it easy for you to see successes and problems at an early stage.

Feed and water

To increase production birds need adequate quantities of quality feed. Supplementary feed and clean water should be given at least early in the morning and again in the evening when the birds are returning to the house for the night. It is important that all feeders and drinkers are kept clean to avoid disease infection through dirty feed and water.

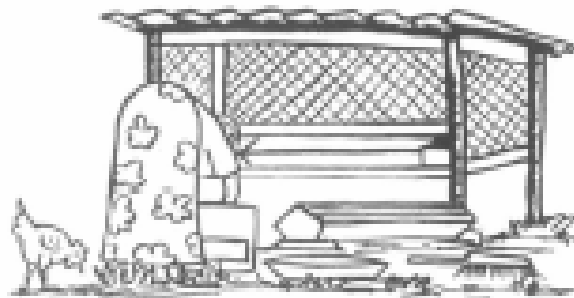


Figure 10. Drinkers and feeders should be cleaned daily

Chicks should be fed separately from the adult birds to avoid competition for feed. They should be offered a starter diet and clean water to avoid dehydration.

Laying hens

Hens start laying eggs at the age of 23-32 weeks, depending on the breed, feeding, health and overall development. Hens will attain peak production at 40-50 weeks of age and then gradually decrease slowly. A mature hen that lays few eggs should be culled through sale or slaughter. It is relatively easy to check whether the hens are laying eggs or not as illustrated below (Fig. 11).

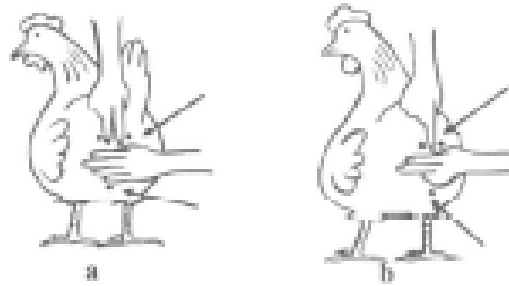


Figure 11. *Hen in lay (a) and outside lay (b)*

Laying hens should have easy access to calcium sources and which maybe supplemented using limestone, bonemeal or crushed eggshells. Provide nests in the hen house for laying. In order to train hens to lay in the nests, you may place a couple of eggs or stones looking like eggs in the nests. If you mark the eggs properly, you will know which eggs are new and collect. Broody hens do not lay and by collecting eggs twice daily brooding maybe avoided. If a hen goes broody you may isolate her in a small cage in a cool place with no access to nesting material for a few days.

Hatching of chicks should be done when feeds are abundant (i.e during the harvest season) to avoid mortality due to starvation and related conditions.

Under natural incubation, hatching takes 21 days. Hatching eggs should not be more than 10 days old when stored at temperatures below 20° C. If storage temperatures are above 20° C, hatching eggs should not be more than 5 days old.

Eggs selected for incubation should be of an average size and normal shape for the breed. The shell should be smooth without cracks. A cracked shell increases moisture loss from the egg which dehydrates the embryo. Bacteria may also enter the egg through cracks leading to early embryo death. Eggs should be stored in a cool and humid place until incubation e.g. Store eggs in a box and placed on the floor in the coolest part of the house. Eggs for sale may also be stored in the same place to increase shelf life. Upon incubation fertile eggs quickly develop blood vessels which can be seen against sharp lighting from a torch while in a dark room. This is referred to as candling (figure 13).



Figure 13. Home-made Candler using a torch

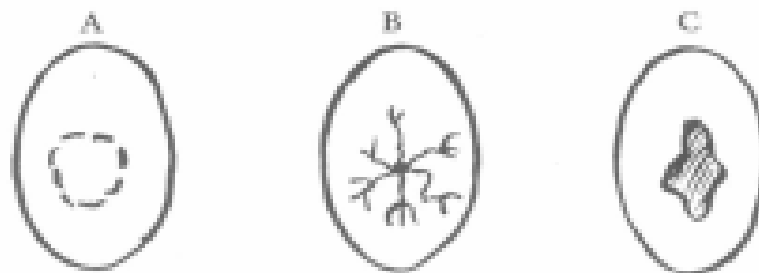


Figure 14. Identifying (a) Infertile eggs (b) Fertile eggs (c) Eggs with dead embryos

After 7-10 days of incubation the eggs can be candled and infertile ones and those with dead embryos removed from the incubation nest. Figures 14 shows how fertile eggs, infertile eggs and eggs with dead

embryos are identified at the age of 7 days. Fertile eggs have visible blood vessels and a dark spot from the growing embryo. Blood vessels can be more or less developed depending on how fast the embryo is developing.

A dead embryo is seen as a ring of blood around the middle. An infertile egg has no blood vessels and has an enlarged air cell with the yolk causing an obvious dark area in the egg. It is important that infertile eggs and eggs with dead embryos are removed from the nest as they will decompose and sometimes break and spoil the fresh eggs under incubation.

Brooding environment for hens

Good environment

Access to feed and water

Clean nest free from parasites

No disturbance from other birds

Bad environment

No access to feed and water

Nest full of parasites

Disturbance from other birds

A broody hen should be isolated from the rest of the flock to prevent other hens from disturbing. Brooding nests should be placed where there is free access to fresh water and feed. The brooding nest

or basket should be big enough to contain all the eggs. Place fresh bedding/litter (hay or straw or wood shavings) in the nest and add some ash to prevent parasites. Add more eggs from other hens until she has enough according to her size (10-20 eggs). When a small number of chicks are required a free-range hen is a better brooder than an artificial incubator, since she will normally have a higher rate of hatching (80-100%) than an incubator (60-80%).

After hatching and until the chicks are old enough to be on their own, (usually 4 weeks of age) the hen will directly protect the chicks from adverse weather conditions and predators by covering them with her wings. Indirectly, the hen will protect the newly hatched chicks against diseases for the first two weeks where she slowly transfers her natural behaviour to the chicks. Natural behaviour would include searching for food and water; which feed to take and which to avoid, how to avoid predators by hiding or seeking shelter in bushes and trees, how to keep healthy by dust bathing etc.

Management of chicks (basket system)

In hot climates, the best and cheapest method to guard newly hatched chicks is using the "basket system" (Fig. 15). Chicks should be kept with their mother overnight in a night basket, which can be made using bamboo or thin pieces of wood. Dry cut straw, rice husk or wood shavings of 8-10 cm depth can be used as litter. In the morning, the chicks should be removed from the night basket and kept in a day basket, which is a bottomless conical cage (see figures 15 and 16). A straw mat should be placed in the cage if the soil is damp or wet. Both night and day baskets should be moved to a new clean spot daily to avoid diseases. Night baskets should prevent predators from entering while keeping the hen and chicks warm at night

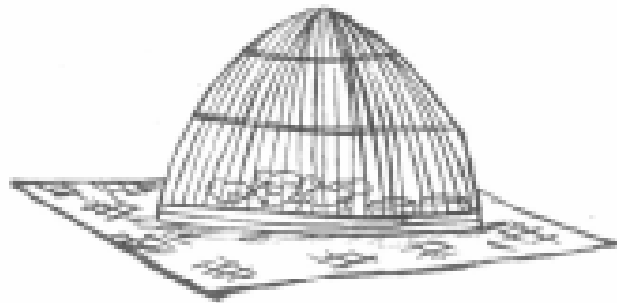


Figure 15. A day basket with a feeder and drinker.

The day basket (Figure 16) needs to be bigger than the night basket and more open to allow free movement of both hen and chicks. There has to be room for a chick feeder and drinker. The chicks often need protection against extreme heat, wind and rain.

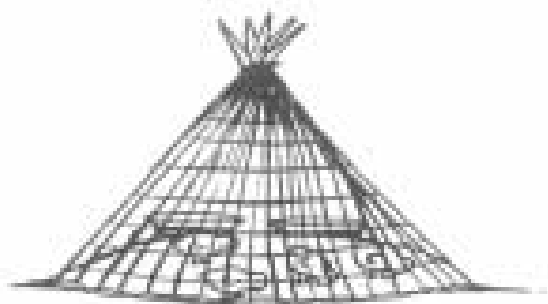


Figure 16. Management of chicks using a day time basket

Management of chicks using the basket system

A: 0-1 week of age:

Keep the hen with the chicks for 1-7 days to protect them and to adjust the temperature. She will know exactly how to adjust the temperature according to the sound of the chicks. Make sure there is easy access to clean water and starter feed for the chicks. Ensure that the basket is kept clean, by removing droppings and spilled feed on a piece of paper or a woven mat placed beneath the basket.

B: 1-3 weeks of age:

Keep the chicks in the cage all the time, but let the hen out for scavenging during the day. She should be able to hear the sound of the chicks from where she scavenges. Allow her to enter the basket from time to time. Make sure there is easy access to clean water and starter feed, and ensure that the basket is kept clean at all times. Always keep the hen and chicks together during the night.

C: 3-6 weeks of age:

Keep hen and chicks together during the night, but gradually let the chicks out for scavenging with their mother during daytime. Allow them to scavenge for a few hours during the morning, and then gradually a little longer with age. Make sure that the chicks still have easy access to clean water and starter feed under the basket by ensuring that the entrance to the basket is too small for older birds to enter. Ensure that the basket and the ground are kept clean at all times.

D: After 6 weeks:

Remove the basket system, and let the chicks scavenge freely together with the mother hen. Give supplementary feeding in the evening for the whole flock, according to their needs

SUMMARY

Ten rules for better management

1. Provide simple houses or shelters and perches inside houses
2. Use day baskets during day and night basket during night
3. Give unlimited access to clean water and feed for young birds
4. Separate young chicks from adults during feeding;
5. Control the birds' health daily through cleaning of houses/basket, bedding and equipment
6. Vaccinate regularly according to the advice of your service provider or local veterinarian
7. Isolates sick bird and report to the veterinary/livestock department.