

# KZNPI/SAPA TRAINING COURSES

## SUMMARIES OF COURSE MATERIAL

### **Broiler Management**

This course focuses mainly on the management of broilers post-brooding but the importance of early feed and water intake during early brooding will also be discussed. The reasons for adjusting the equipment height and for recording and monitoring conditions in the broiler house are subsequently discussed. Emphasis is placed on reasons for managing the environment effectively to enable broilers to perform to their potential in an atmosphere that is low in dust and ammonia. Discussions on environmental management include heat and moisture production, importance of air velocity, bird density, cooling systems and light schedules. Under health management, the common pathogens and vectors of disease, vaccine application, the correct handling and storage procedures of vaccines and the affected organs for the most common broiler diseases are detailed. This discussion is followed by the reasons for feed removal before harvesting broilers and the reasons for correct handling of the birds during catching.

**Practical work:** Identification of the various internal organs of the broiler chicken including the organs associated with the production of antibodies and immune development.

### **Broiler Breeder Management**

The preparation of the laying house, including installation and testing of all equipment, and the allowances for feeder and drinker space, forms the introduction to this module. The reasons for implementing feeding programs for males and females, feed allocations and the effects of obesity on egg production and hatchability is explained. Some physiological background on the process of fertilisation in the hen and male fertility is supplied. The section on ventilation covers the concept of a thermoneutral zone, evaporative cooling, the limitations of mist and roof sprayers, and the calculation of ventilation rates. The need for strict biosecurity in breeder facilities is emphasized. Learners are made aware why monitoring the immune status is so critical and notes are given on the different methods of vaccination. The response of the breeders to photoperiod and light intensity is discussed. The reasons for the recommended egg collection, handling and storage procedures are given and consequences of poor handling on hatchability and embryo survival are pointed out. The reasons for thorough cleaning and disinfecting after depopulation of the breeders are given.

**Practical work:** Dissection of male and female breeder birds and the identification of the reproductive organs. Identification of differences between fertile and infertile eggs at oviposition.

### **Commercial layer Management**

This course starts with a discussion on why the proper cleaning and disinfection of a layer house is crucial and the reasons for testing the equipment prior to housing the point-of-lay pullets. The discussion then focuses on the physiological reasons for correct handling procedures of the birds during placement. A section on ventilation includes the principles of natural and mechanical ventilation and the effect of environmental conditions on feed consumption and health management. The function of water in egg formation, digestion of feed and body temperature regulation is also discussed. With regard to feed management, concepts such as protein, energy, and calcium content of diets, the control of mold and keeping of feed records are shortly dealt with. The effect of light intensity and photoperiod on layers and the design of lighting programs form the concluding part of the training session.

**Practical work:** Point-of-lay pullets and hens in lay will be dissected.

### **Hatchery Management**

This course focuses on the collection and storage of fertile eggs prior to setting in the incubators. An overview is given on safety and biosecurity procedures at the hatchery and the importance of personal hygiene. Those who work in hatcheries will find the notes on egg formation in the hen, nest management, egg collection, fumigation and cooling of eggs, early embryonic development and male fertility informative. This should lead to a better understanding of the role of the breeder farms in maintaining hatchability. A discussion on the transport of eggs to the hatchery, the selection of suitable hatching eggs, and the correct handling and storage procedures follows. The effect of storage period and conditions such as temperature and relative humidity on hatchability is discussed.

**Practical work:** Dissection of male and female breeder birds and identification of the reproductive organs. Identification of differences between fertile and infertile eggs at oviposition.