



MODULE NO: 16 INSPECTION AND PRE-SLAUGHTER CARE OF POULTRY



INTRODUCTION

Meat

Meat is a skeletal muscle of animal which undergoes physical, chemical & biochemical changes & used as food.

The present production of meat is estimated at 6.27 million tons in 2010 (FAO, 2012) which is 2.21% of the world's meat production.



STRESSES ON POULTRY

Stress encountered on the poultry during

- Commercial-type handling
- Transportation

ADVERSE CONSEQUENCES OF TRANSPORTATION



Physical, physiological and behavioral changes

- Death
- Thermal stress
- Trauma
- Fatigue
- Hunger and thirst
- physiology indicative of stress plus fear and aversion.

Increasing stress and mortality



all classes of poultry

- Transportation time
- Holding time
- Feed- and water-deprivation

EFFECT DURING TRANSPORTATION



- Reduced liver weight
- Did not affect live or carcass weights.
- Withdrawal of food alone or of both feed and water, for 24 hr Resulted in a 10% decrease in live weight.
- Holding birds in lairage for 1, 2 or 3 hr increased their body Temperature and depleted their liver glycogen
- Did not dehydrate them or physically stress them



Contd...

- ❖ Transportation of poultry constitutes the largest commercial translocation of a single class of livestock in Italy.
- ❖ In 2004, the number of slaughtered broiler chickens- 450 million.
- ❖ Turkeys and spent hens were 35 and 46 million



Contd....

All these birds before slaughter are

- I. Caught
- II. Loaded into cages or coops
- III. Transported to an abattoir that may be Located either
close or far from the farm.
- IV. laired in a holding area

MORTALITY DURING TRANSPORTATION



- ✓ Mortality is higher in consignments of broilers transported for a longer amount of time.
- ✓ For journeys lasting less than 4 h, the prevalence of dead birds was 0.156%,
- ✓ For longer journeys (up to 9 h), it was 0.283%, an increase of about 80%.
- ✓ Shorter journey time (<3.5 h) exhibited a lower mortality rate (0.24%) of birds in respect with longer time (>5 h; 0.45%).



PROBLEMS DURING TRANSPORTATION

- Potentially increase the rate of mortality
- The recent Council Regulation 2005/1/EC have established that suitable food and water shall be available in adequate quantities in the case of a journey lasting more than 12 h.
- The European Union proposal of Council Directive 2005/99/CNS lays down minimum rules for the protection of chickens kept for meat production and includes the mortality during transport ($<0.5\%$)



POULTRY HYGIENE

- Hygiene is a most important factor in disease prevention.
- Cleaning can eliminate over 90% of all disease

PRESLAUGHTER INSPECTION



- Sick birds should not be sent for slaughter.
- They should be disposed of at the farm under veterinary supervision if possible.
- The circumstances of the sickness should always be reported to the veterinarian.
- Cleaning and disinfection of cages should be carried out after use.
- The vehicles which carry the modules or cages should also be cleaned and disinfected after use.



VEHICLE AND TRANSPORT HYGIENE

- Cleaning and disinfection of cages should be carried out after use.
- The vehicles which carry the modules or cages should also be cleaned and disinfected after use.



PERSONAL CLEANLINESS AND HABITS

- Good personal cleanliness and Habits.
- Staff are involved at all stages of processing provision of cleaning facilities and materials.
- Staff training in hygienic practices



Suggested readings

- Petracci M., Bianchi M., Cavani C., Gaspari P., and Lavazza A. (2006). Preslaughter Mortality in Broiler Chickens, Turkeys, and Spent Hens Under Commercial Slaughtering. *Poultry Science* 85:1660–1664.
- Elrom, K. 2001. Handling and transportation of broilers – welfare, stress, fear and meat quality. Part VI: The consequences of handling and transportation of chickens (*Gallus gallus domesticus*). *Isr. J. Vet. Med.* 56:1–5.



- Petracci, M., M. Bianchi, and C. Cavani. 2005. Preslaughter factors affecting mortality, liveweight loss, and carcass quality in broiler chickens. Pages 104–107 in Proc. XVII Eur. Symp. Qual. Poul. Meat, Doorwerth, The Netherlands.
- Sagar R. P. Theory study material course No.: FDST 312 Processing of meat and poultry products. Acharya N. G. Ranga agricultural university