

Poultry Diseases

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Lecture

1. General information about poultry industry
2. Healthy growth principles
3. *Salmonella* Infections
4. Respiratory system Infections
5. Bacterial Diseases (*Mycoplasma*, *Ecoli*, Infectious Coryza etc. other bacterial infections)
6. Viral Diseases (Avian Influenza, IB, AmPV, ILT, ND, IBD, Chicken Infectious Anemia, Adenovirus, Reovirus Infections, Marek's disease, Neoplastic diseases)

Main problems of poultry industry

Issues affecting poultry production in Turkey that require intensive work:

1. Highly productive hybrid breed

- Main factor in development in poultry sector
- Insufficient supply of hybrid breeds in Turkey

2. Feed raw materials

- Sufficient feed raw materials are not produced in Turkey
- Although the poultry population is increasing every year, there is no corresponding increase in the production of feed raw materials

3. Vaccine, medicine and feed additives

- Production and use of local vaccines are declining.
- Studies on vaccine effectiveness are insufficient!
- Almost all medicine used to address poultry diseases are imported
- Most feed additives are imported

Health problems and quality of product

- Poultry diseases can be evaluated in two main ways;

Impact on poultry health

Impact on public health

- Most diseases observed worldwide are also present in our country.
- In regions with intensive poultry farming, problems related to infectious diseases are more common.
- Implementation of preventive programs is essential
- Implementation of product quality control systems
 - GMP

Other subjects

- Diagnosis of diseases is performed in the laboratory.
- After this stage, the necessary treatment is administered or appropriate preventive measures are taken.

Diagnostic Methods

1. Bacteriological Methods
2. Methods on Virology
3. Methods on Mycology
4. Methods on Parasitology
5. Histopathologic Methods
6. Toxicological and Chemical Analysis
7. Serologic Methods
8. Molecular Methods

Serologic methods

1. Agglutination
2. Hem agglutination
3. Hem agglutination Inhibition
4. Precipitation
5. Neutralization

1. Immunofluorescence
2. Radio-immunology
3. Immuno-enzymology

Molecular methods

1. Analysis on protein
2. Electrophoresis (SDS-PAGE)
3. Immunoblot (Western Blot)
4. Analysis on Nucleic Acids
5. Polymerase Chain Reaction (PCR)
6. Reverse Transcription (RT-PCR)
7. Restriction Enzyme Analysis (RFLP)

HEALTHY GROWTH PRINCIPLES

POULTRY BREEDING

Breeder (safkan)

Grand parent (büyük ana-baba)

Parent (ana-baba/damızlık)

Commercial yield (meat, eggs) farming

HEALTHY GROWING PRINCIPLES

The health of new animals to be taken into the commercial flock

Flocks should be suitable for the purpose of management

Good care of animals and good feeding of animals

Care and Feeding of Animals

Breeding, maintenance of broiler and laying hens

1. Preparation of bases
2. Chick compartments
3. Feeder and watering
4. Heating
5. Lighting
6. Ventilation
7. Moisture
8. Vaccine-drug applications
9. Record

CAUSES OF DISEASES IN POULTRY

Non-infectious diseases

Nutritional disorders

Problems in animal care

Genetic disorders

Infectious diseases

Bacterial

Viral

Mycotic

Parasitic

Bacterial Diseases

Salmonella Infections

- Fowl typhoid and Pullorum disease
- Paratyphoid

E.coli

Mycoplasma infections

Pasteurella infections

Avibacterium infections

Viral Infections

Newcastle Disease (ND)

Infectious Bronchitis

Metapneumonia virus infection (SHS)

Laryngotracheitis (ILT)

Influenza

Bursal Disease (Gumboro- IBD)

Adenovirus infection

Chicken anemia

Reovirus infection

Sources of infections

- Infectious agents are very common in nature
- Infected animals
- The dead birds
- Vectors
- Contaminated feed
- Contaminated water
- Contamine equipment
- Birds entering poultry flocks
- Rodents
- People who visit the flocks

ROUTES OF INFECTION

- By egg
 - *Vertical*
 - *Horizontal*
- Gastrointestinal route
- The respiratory route
- Through skin, cornea and mucose membrane
- Via administration of live vaccines