

# Introduction to Animal Diseases

## Introduction to Animal Diseases

Key concepts, classifications, causes, transmission, prevention, and basic management

---

## 1. What Is an Animal Disease?

- **Definition** – Any deviation from normal health in animals caused by internal or external factors that impairs physiological functions.
  - **Importance** – Affects animal welfare, agricultural productivity, public health (zoonoses), and biodiversity.
- 

## 2. Major Classifications

| Category                          | Description                                                                    | Typical Examples                                                     |
|-----------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Infectious (Communicable)         | Caused by pathogens that can spread between animals (and sometimes to humans). | Foot and mouth disease, avian influenza, rabies, bovine tuberculosis |
| Non-Infectious (Non-communicable) | Result from genetics, nutrition, management, or environmental factors.         | Nutritional deficiencies, metabolic disorders, congenital anomalies  |
| Zoonotic                          | Infectious diseases that can be transmitted from animals to humans.            | Brucellosis, anthrax, leptospirosis, salmonellosis                   |
| Emerging & Re-emerging            | Newly identified or previously controlled diseases that reappear.              | African swine fever, Nipah virus, COVID-19 (suspected animal origin) |

---

## 3. Common Causative Agents

| Agent Type | Characteristics                                                 | Representative Diseases                         |
|------------|-----------------------------------------------------------------|-------------------------------------------------|
| Bacteria   | Prokaryotic, often treatable with antibiotics.                  | Pasteurellosis, anthrax, leptospirosis          |
| Viruses    | Obligate intracellular parasites; vaccines are primary control. | Rabies, foot and mouth disease, avian influenza |

# Introduction to Animal Diseases

| Agent Type       | Characteristics                                              | Representative Diseases                        |
|------------------|--------------------------------------------------------------|------------------------------------------------|
| <b>Fungi</b>     | Opportunistic; thrive in moist, warm environments.           | Ringworm, aspergillosis                        |
| <b>Parasites</b> | Include protozoa, helminths, ectoparasites.                  | Coccidiosis, liver fluke, mange                |
| <b>Prions</b>    | Misfolded proteins, no nucleic acids; extremely resistant.   | Scrapie, chronic wasting disease               |
| <b>Toxins</b>    | Produced by plants, microbes, or environmental contaminants. | Mycotoxicosis, botulism, heavy metal poisoning |

## 4. Routes of Transmission

| Route                   | Mechanism                                    | Examples                                  |
|-------------------------|----------------------------------------------|-------------------------------------------|
| <b>Direct Contact</b>   | Physical interaction, bite, sexual contact.  | Rabies (bite), bovine viral diarrhea      |
| <b>Indirect Contact</b> | Shared feed, water, equipment, fomites.      | Salmonella via contaminated feed          |
| <b>Airborne/Aerosol</b> | Respiratory droplets or dust particles.      | Avian influenza, foot and mouth disease   |
| <b>Vector-borne</b>     | Insects, ticks, mites act as carriers.       | Lyme disease (ticks), bluetongue (midges) |
| <b>Vertical</b>         | Mother to offspring (in utero, birth, milk). | Bovine viral diarrhea, toxoplasmosis      |
| <b>Environmental</b>    | Soil, water, pasture contamination.          | Clostridial enterotoxemia, leptospirosis  |

## 5. Clinical Signs – A Quick Reference

| System                  | Common Signs                    | Typical Diseases                             |
|-------------------------|---------------------------------|----------------------------------------------|
| <b>Respiratory</b>      | Cough, nasal discharge, dyspnea | Pneumonia (bacterial, viral), pasteurellosis |
| <b>Gastrointestinal</b> | Diarrhea, vomiting, weight loss | Coccidiosis, salmonellosis                   |
| <b>Neurological</b>     | Ataxia, seizures, paralysis     | Rabies, listeriosis                          |

\*\*Derm