

Introduction to Animal Health

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Key concepts, common concerns, and basic management practices

1. Why Animal Health Matters

- **Economic impact** – Healthy livestock and pets contribute to food security, trade, and household income.
 - **Public health** – Many zoonotic diseases (e.g., rabies, salmonellosis) originate in animals.
 - **Animal welfare** – Good health is a core component of humane treatment and ethical stewardship.
 - **Environmental sustainability** – Healthy animals use feed more efficiently and produce fewer pollutants.
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2. Basic Terminology

Term	Definition
Morbidity	Occurrence of disease or illness in a population.
Mortality	Death rate within a population.
Incidence	Number of new cases of a disease during a specific period.
Prevalence	Total number of existing cases (new + old) at a given time.
Zoonosis	Disease that can be transmitted from animals to humans.
Biosecurity	Practices that prevent the introduction or spread of pathogens.
Vaccination	Administration of a vaccine to stimulate protective immunity.
Quarantine	Isolation of animals that may be infected to prevent disease spread.

3. Major Categories of Animal Health Issues

Category	Typical Examples	Primary Concerns
Infectious diseases	Foot and mouth disease, avian influenza, canine parvovirus	Rapid spread, high mortality, trade restrictions

Introduction to Animal Health

Category	Typical Examples	Primary Concerns
Parasitic infestations	Gastrointestinal nematodes, external ticks, lice	Reduced growth, anemia, vector-borne disease transmission
Nutritional disorders	Ruminant bloat, vitamin A deficiency, obesity in companion animals	Poor performance, reproductive failure, immune suppression
Genetic/congenital defects	Hip dysplasia (dogs), dwarfism (sheep)	Longevity, breeding value, welfare
Trauma & injuries	Lameness, fractures, bite wounds	Immediate pain, risk of infection, loss of productivity
Environmental stress	Heat stress, poor ventilation, overcrowding	Immunosuppression, reduced feed intake, behavioral issues

4. Core Components of an Animal Health Management Plan

1. Preventive Measures

- **Vaccination schedules** (species-specific, based on risk assessment)
- **Deworming protocols** (rotational anthelmintics, fecal egg count monitoring)
- **Nutritional adequacy** (balanced rations, mineral/vitamin supplementation)
- **Environmental control** (clean housing, proper ventilation, temperature regulation)

2. Biosecurity Practices

- Controlled animal movement (record-keeping, health certificates)
- Use of footbaths, disinfection stations, and protective clothing
- Isolation/quarantine of new or sick animals
- Pest-control programs (rodents, insects, wild birds)

3. Health Monitoring & Early Detection

- Routine clinical examinations (temperature, pulse, respiration, body condition)
- Regular laboratory testing (blood panels, serology, fecal exams)
- Observation of behavior and production parameters (milk yield, weight gain)

Introduction to Animal Health

4. Treatment & Therapeutics

- Evidence-based drug selection (antibiotics, antiparasitics, anti-inflammatories)
- Proper dosing, route of administration, and withdrawal times for food animals
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