Training Course on Livestock Disease Diagnostics, Prevention and Epidemiology

Professional Development Training Course Outline

Category	Agriculture	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In the face of increasing global demand for animal products and the rising threat of transboundary animal diseases, the need for skilled personnel in livestock disease diagnostics, prevention, and epidemiology has never been greater. Training Course on Livestock Disease Diagnostics, Prevention and Epidemiology is designed to equip livestock professionals, veterinary practitioners, and agricultural stakeholders with modern, evidence-based strategies to identify, manage, and mitigate livestock diseases. With a focus on early diagnosis, surveillance, outbreak management, and biosecurity, the course offers a practical, hands-on approach to improve animal health outcomes and secure food systems.

This course emphasizes epidemiological surveillance, rapid diagnostic techniques, and data-driven prevention strategies, ensuring participants stay ahead of emerging zoonotic and infectious diseases. Leveraging cutting-edge tools and real-world case studies, this training will bridge knowledge gaps and empower professionals with the capacity to respond to disease outbreaks and safeguard livestock productivity across regions.

Programme Curriculum

Training Course on Livestock Disease Diagnostics, Prevention and Epidemiology

Introduction

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Course Objectives

1. Understand the principles of livestock disease epidemiology and transmission patterns.
2. Master laboratory diagnostic methods for common and emerging animal diseases.
3. Enhance skills in field-based surveillance and reporting systems.
4. Apply biosecurity and infection control strategies in various livestock settings.
5. Conduct risk assessments and outbreak investigations effectively.
6. Interpret and use epidemiological data for disease control decisions.
7. Promote One Health approaches linking animal, human, and environmental health.
8. Integrate GIS and digital tools in disease mapping and tracking.
9. Strengthen knowledge of vaccination programs and herd immunity management.
10. Identify and respond to zoonotic and notifiable diseases.
11. Implement livestock health policies and national disease control programs.
12. Foster community engagement and farmer-centered disease prevention models.
13. Build capacity for emergency preparedness and response to epidemics.

Target Audiences

1. Veterinary officers and livestock extension workers
2. Veterinary laboratory technologists
3. Animal health policy makers
4. Livestock farmers and producer associations
5. Animal health NGO project staff
6. Epidemiologists and public health officers
7. University faculty and students in animal sciences
8. Agribusiness and livestock pharmaceutical companies

Course Duration: 10 days

Course Modules

Module 1: Fundamentals of Veterinary Epidemiology

- Definition and importance of epidemiology in livestock
- Types of epidemiological studies
- Disease distribution and determinants
- Data collection and analysis
- Principles of disease surveillance
- **Case Study:** Rift Valley Fever outbreak in East Africa

Module 2: Livestock Disease Classification and Pathogenesis

- Types of diseases: infectious, parasitic, metabolic
- Disease symptoms and progression
- Host-pathogen interactions
- Environmental and genetic factors
- Diagnostic indicators for classification
- **Case Study:** Foot and Mouth Disease dynamics in Uganda

Module 3: Sample Collection and Laboratory Diagnostics

- Sampling techniques and biosecurity measures
- Handling and transportation of specimens
- Diagnostic tools: PCR, ELISA, microscopy
- Serological testing and interpretation
- Quality assurance in labs
- **Case Study:** Brucellosis testing in pastoral communities

Module 4: Disease Surveillance and Reporting Systems

- Passive vs. active surveillance
- Community-based disease reporting
- Data tools and mobile apps
- Analysis and dissemination
- National and international reporting protocols
- **Case Study:** Participatory epidemiology in nomadic herds

Module 5: Zoonotic and Emerging Livestock Diseases

- Common zoonotic diseases and their impact
- Pathways of transmission
- Role of wildlife and vectors
- Human-animal interface risks
- Monitoring systems
- **Case Study:** Anthrax outbreak at wildlife-livestock interface

Module 6: Vaccination Strategies and Herd Health Management

- Principles of immunization
- Vaccine storage and delivery
- Scheduling and compliance
- Record keeping
- Evaluation of vaccine efficacy
- **Case Study:** PPR vaccination program in Kenya

Module 7: Outbreak Investigation and Emergency Response

- Outbreak detection and notification
- Steps in outbreak investigation
- Rapid response team formation
- Communication and coordination
- Risk communication
- **Case Study:** Avian Influenza outbreak containment in Nigeria

Module 8: Biosecurity and Farm-Level Disease Control

- Farm design and hygiene protocols
- Animal movement control
- Pest and vector control
- Quarantine and isolation
- Water and feed safety
- **Case Study:** Biosecurity implementation in commercial poultry farms

Module 9: Use of GIS and Digital Tools in Epidemiology

- Introduction to GIS and spatial analysis
- Mapping disease hotspots

- Remote sensing and data integration
- Mobile surveillance tools
- Predictive modeling
- **Case Study:** GIS mapping of tick-borne diseases in Tanzania

Module 10: Risk Assessment and Mitigation Planning

- Hazard identification
- Exposure assessment
- Risk characterization
- Risk mitigation options
- Stakeholder engagement
- **Case Study:** Risk analysis for transboundary diseases in trade corridors

Module 11: Antimicrobial Resistance in Livestock

- Understanding AMR causes and trends
- Prudent use of antibiotics
- AMR surveillance systems
- Policy and regulations
- Farmer education
- **Case Study:** AMR monitoring in swine farms

Module 12: Integrating One Health in Livestock Disease Control

- One Health principles
- Intersectoral collaboration
- Health communication
- Joint surveillance programs
- Environmental monitoring
- **Case Study:** Joint rabies prevention initiative

Module 13: Disease Control Policies and Regulations

- Veterinary public health laws
- International frameworks (OIE, FAO)
- Animal movement laws
- Disease notification requirements
- Penalties and compliance
- **Case Study:** National eradication policy for CBPP

Module 14: Community Engagement and Farmer Training

- Communication strategies
- Farmer field schools
- Use of media and local languages
- Gender considerations
- Participatory learning tools
- **Case Study:** Community-led Newcastle Disease control

Module 15: Livestock Health Information Systems (LHIS)

- Structure and components of LHIS
- Data entry and validation
- Decision-support systems
- Integration with human health systems

- Real-time analytics
- **Case Study:** eVet system for livestock data in Ethiopia

Training Methodology

- Interactive expert-led presentations and lectures
- Practical demonstrations and hands-on laboratory sessions
- Group work and participatory discussions
- Case-based learning from real field scenarios
- Digital simulations and GIS mapping exercises
- Final project: participants design a mini-surveillance or outbreak response plan

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

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