VETERINARY LABORATORIES

IN KENYA

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Laboratory Network

- National referral laboratories
  - Central Veterinary Laboratories (CVL) Kabete
  - National Veterinary Quality Control Lab., Embakasi

- Regional laboratories
  - Nakuru - Serves Southern Rift Valley
  - Kericho - For Nyanza, Western, Western Rift Valley
  - Eldoret - Serves Northern Rift Valley
    - Has a Satellite lab. at Lodwar
  - Karatina - Serves Central and Eastern Provinces
    - Has a Satellite lab. at Isiolo
  - Mariakani - Serves Coast Province
    - Has 2 satellites at Ukunda and Witu
  - Garissa - Serves North Eastern Province
Role of the Laboratories

To safeguard human health, animal health and productivity as it relates to food security, safety and trade.

- To undertake prompt disease diagnosis investigation of outbreaks, quality control of acaricides, vaccines, drugs, livestock, food and feed.

- In line with international conventions such as those of World Organization for Animal Health (OIE), WHO, Codex, FAO, etc.
CENTRAL VETERINARY LABORATORIES – KABETE:

Comprises the following laboratories:

- Pathology
- Chemistry
- Bacteriology
- Parasitology
- Virology, and
- Acarology
CVL Mandated to:-

- Confirm animal diseases diagnosis
- Disease search and surveillance
- Monitor the effectiveness of vaccination campaigns
- Quality regulation of veterinary inputs and outputs
- Certification of exports/imports. - to be free from diseases, to be acceptable.
- Teaching institution
Organization of diagnosis

Farmers and other Stakeholders

Veterinary field staff, Private Practitioners, RVILS

Other Institutes and Countries

NVQCL and KARI’s NVRC
- Vaccine Quality Control
- Virus detection and typing

SEROLOGY
- Infertility diseases, Brucellosis, Johne’s disease, CCPP, CBPP etc

ACAROLOGY
- Acaricide evaluation
- Tick identification
- Mange identification

BACTERIOLOGY
- Bacterial and fungus
- isolation and typing
- Drug sensitivity tests
- Media and antigen preparation

HELMINTHOLOGY
- Worm identification
- Worm burden surveys

VIROLOGY
- Isolation of viruses in tissues culture or animals,
- Serological tests including ELISA

PATHOLOGY
- Histopathology
- Post mortem
- Microscopy
- Anthrax surveillance
- Clinical work
- Reports dispatch

CHEMISTRY
- Dip strength and milk quality testing
- Toxicological analysis
- Detection of mineral def. diseases
- Drug evaluation
Pathology Laboratory

• Reception
• Post-mortem
• Histopathology
• Poultry diseases
• Farm visits/Dse Investigations
Post mortem in progress
Helminthology Laboratory

- Worm Identification
- Egg worm counts
- Worm larvae identification
- Worm egg cultures
Bacteriology Laboratory

• Bacterial isolation and identification
• Mycoplasma isolation
• Serology
• Media preparation
• Antigen preparation

Preparation of antigen for use in bacterial assays
Virology Laboratory

- Virus disease diagnosis
- Egg work section
- Expt. animals section
- Tissue culture section
- Serology

ELISA in Virology Laboratory
ELISA in progress
ELISA laboratory
Assays in progress
Real time PCR in progress
PCR work station
Acarology Laboratory

- Tick and Mange identification
- Acaricide resistance testing
- Acaricide evaluation (acaricide efficacy trials)
Chemistry Laboratory

- Toxicology lab
- Dip wash testing
- Nutrition lab
- Mineral analysis lab

Assay for pesticides in Chemistry Laboratory
Challenges

• Emerging diseases such as HPAI and Leptospirosis, ASF and no accompanying extra funds

• Inadequate notice for lab. tests which are very expensive, before shipment of animals destined for export.
  – Tests requiring repeat after 21 days not even repeated
Emergency preparedness
Achievements in general

• CVL Kabete has continued to play the role of the Government national referral Veterinary Investigation Laboratories and also in support of the Eastern and Central African region’s diagnostic activities.

• In collaboration with other relevant stakeholders, CVL has continued to support 2 of the 10 core functions of the Department of Veterinary Services, namely,:
  – Management and control of animal pests and diseases;
  – Regulatory management and quality assurance of animals, animal products, by-products and animal health/production inputs.
Specific achievements

- Facilitating the provision of accessible, cost-effective, prompt, efficient and effective disease diagnosis and investigations, disease surveillance, epidemiological surveillance and vaccine performance monitoring.

- Provision of diagnostic reagents, materials and kits to both government and private health institutions for the diagnosis of zoonotic diseases.

- Providing quality assurance and certification of animal production inputs, vaccines and other biologics, drugs, pesticides, feeds, premixes and livestock products.
Specific achievements

• Facilitating the establishment of an inspection and compliance system for animal health and production inputs, animals, animal products and by products.

• Promoting the use of appropriate, accredited and validated technologies with potential for improved and sustained agricultural growth.

• Provision of training to Department of Veterinary Services staff and students from universities and tertiary institutions.
Training Institution
Challenges

- Management Information System (MIS)
  - The bulk of information in the Laboratory is managed manually. This information include disease reports, annual and quarterly reports and staff matters.
  - Training updates for staff on data processing and analysis is highly recommended.
Collaborations

• **Local collaborators include:**
  – Kenya Agricultural Research Institute (KARI),
  – National Council for Science & Technology (NCST)
  – Universities
  – Ministry of Health
  – International Livestock Research Institute (ILRI)
  – Kenya Medical Research Institute (KEMRI)
  – Kenya Bureau of Standards (KEBS)

• **International collaborators include:**
  – European Union (EU)
  – International Atomic Energy Agency (IAEA)
  – Institute for Animal Health, Pirbright, U.K.
  – CIRAD-EMVT, Montpellier, France
  – African Union – Inter-Africa Bureau for Animal Resources (AU-IBAR)
  – Onderstepoort Institute for Exotic Diseases, Republic of South Africa
  – Food and Agriculture Organisation of the United Nations (FAO)
  – Office International Epizooties (OIE)
  – World Health Organisation (WHO)
  – World Trade Organisation (WTO)
  – International standards Organisation (ISO)
  – CISA - INIA Spain
  – USDA’s National Veterinary Research Laboratories (NVSL), Ames Iowa, USA
  – OIE Reference Laboratory for Avian Influenza, Rome Italy
  – Centers for Disease Control (CDC)
THANKS