



# **Role and responsibility of Animal Health Research Institute in the national veterinary infrastructure**

**Dr. Abdel-khalik M. montasser**

Chief researcher

Brucella Department, AHRI

e-mail: [montasser100@hotmail.com](mailto:montasser100@hotmail.com)

T., home: 048487115 Office: 0237482496

mobile: 0106745346

# Animal Health Research Institute (AHRI)

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- ❑ AHRI is the scientific backbone of the governmental veterinary infrastructure and considered as the right hand of the veterinary competent authority “GOVS”.
  - ❑ AHRI is the National Veterinary Laboratory for the Egyptian Veterinary Services.
  - ❑ The mandate of the AHRI implies animal health and safety of food from animal origin.
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# The responsibility of AHRI

- Centre of excellence and the point of reference in animal disease diagnosis being the national standard in laboratory diagnosis.
- Implies the quality control of the diagnostic facilities (private and governmental institutions) performing laboratory diagnosis of animal diseases (terrestrial and aquatic animals).

# The responsibility of AHRI

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- Act as diagnostic and reference institute for standardizing and approval laboratory methods and procedures for:
    1. Diagnosis of animal disease.
    2. Different surveillance programs which performed in regional AHRI laboratories.
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# The responsibility of AHRI

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- Act as reference institute for testing residues and unwanted substances in food of animal origin.
  - Since AHRI is considered the national point of reference, so that it should maintain an independent position in which structuring the activities is essential in a transparent way to justify the performance and give account of the expenditures according to projects/programs with the specified input/outputs.
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# The responsibility of AHRI cont;

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- ❑ Testing and monitoring of all animal products and by-products for presence or absence of all biological agents.
  - ❑ Laboratory analysis of samples taken in all different surveillance programs in cooperation with GOVS.
  - ❑ The AHRI acts as the focal point of all the veterinary laboratories in the country.
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# The responsibility of AHRI cont;

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- ❑ Maintain a high level of expertise on animal disease knowledge :
    1. To act as source of expertise on animal health and diseases to the Competent Authority.
    2. To any other stakeholder in the society: public, producers, etc.
  - ❑ Maintain international contacts and cooperation with different relevant organisations “reference labs, OIE, FAO ...etc.
  - ❑ Monitoring of transboundry animal disease.
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# The responsibility of AHRI cont;

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- Responsible for final and definitive confirmation and the official reporting of the test result to the Competent Authority “GOVS” that will take necessary action according to agreed procedures (laid down in the contingency plans).
- **When another laboratory** (regional, university, private) has a positive test on an animal disease, the sample should be submitted to the AHRI for final confirmation and definitive diagnosis.



# The responsibility of AHRI cont;

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- Provides expert opinion to the GOVS on the granting of license for the transportation (Importation and Exportation) of microbial strains including “samples of material from animal origin.”
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# The responsibility of AHRI cont;

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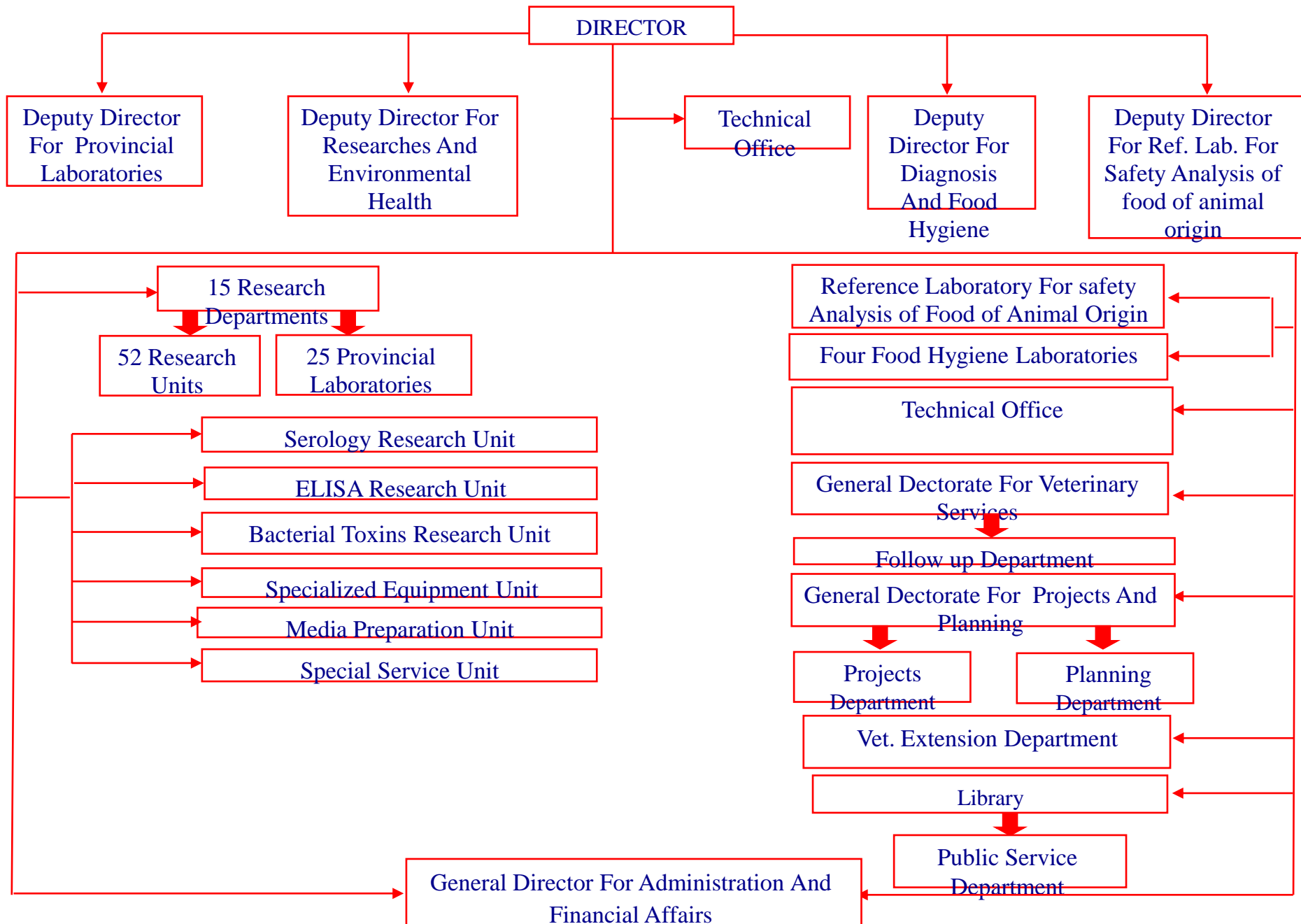
- ❑ Formulation, implementation and evaluation of the animal disease strategic plans for controlling different animal diseases with relevant authorities through specifying the following.
    1. The required resources.
    2. Planning different surveillance programs
    3. Rapid reporting different surveillance data
    4. Measures to be taken in the field,
    5. Monitoring and Evaluating the progress.
  - ❑ Provide the technical advices for preparing the final decision taken by GOVS for combating animal diseases.
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# The responsibility of AHRI cont;

## □ Role of AHRI in research and development:

1. To maintain sustainable research program for generation of new primary knowledge.
2. The research projects will have to fit the specific national priorities of Egypt.
3. Research is carried out for solving the national problems in the field of :
  - Control of animal diseases.
  - Development and improving the different diagnostic techniques while maintaining an international standard of scientific expertise.
  - Selection of vaccine candidate, vaccine field trials and efficacy monitoring.

# Managerial Structure of AHRI





# Egypt

Scale  
0 50 100 150 Kilometres  
0 50 100 150 Miles



## **Current Activities**

1-Careful control of all entrances borders of the country and inspection of all imported animals and its by-products to ensure that they are disease free.

2-Conducting laboratory investigations for the diagnosis of various diseases with special attention to modern technological and biotechnological methods.

3-Diagnosis of enzootic, exotic and zoonotic diseases and conducting researches on such diseases for protection of human health.

4-Performing sero-surveys of endemic diseases of animal and poultry to determine their immune status with respect to each disease.

- 5-Veterinary control on poultry industry in farms and hatchery.
- 6-Safety evaluation of food of animal origin or animal by-products which can be used for human consumption.
- 7-Safety evaluation of animal feed, concentrates and additives to be pathogen free.
- 8- Efficacy evaluation of veterinary drugs and insecticides.
- 9-Detection of pollution in water sources of animal, poultry and fish farms.



# Animal Health Research Institute





# Animal Health Research Institute

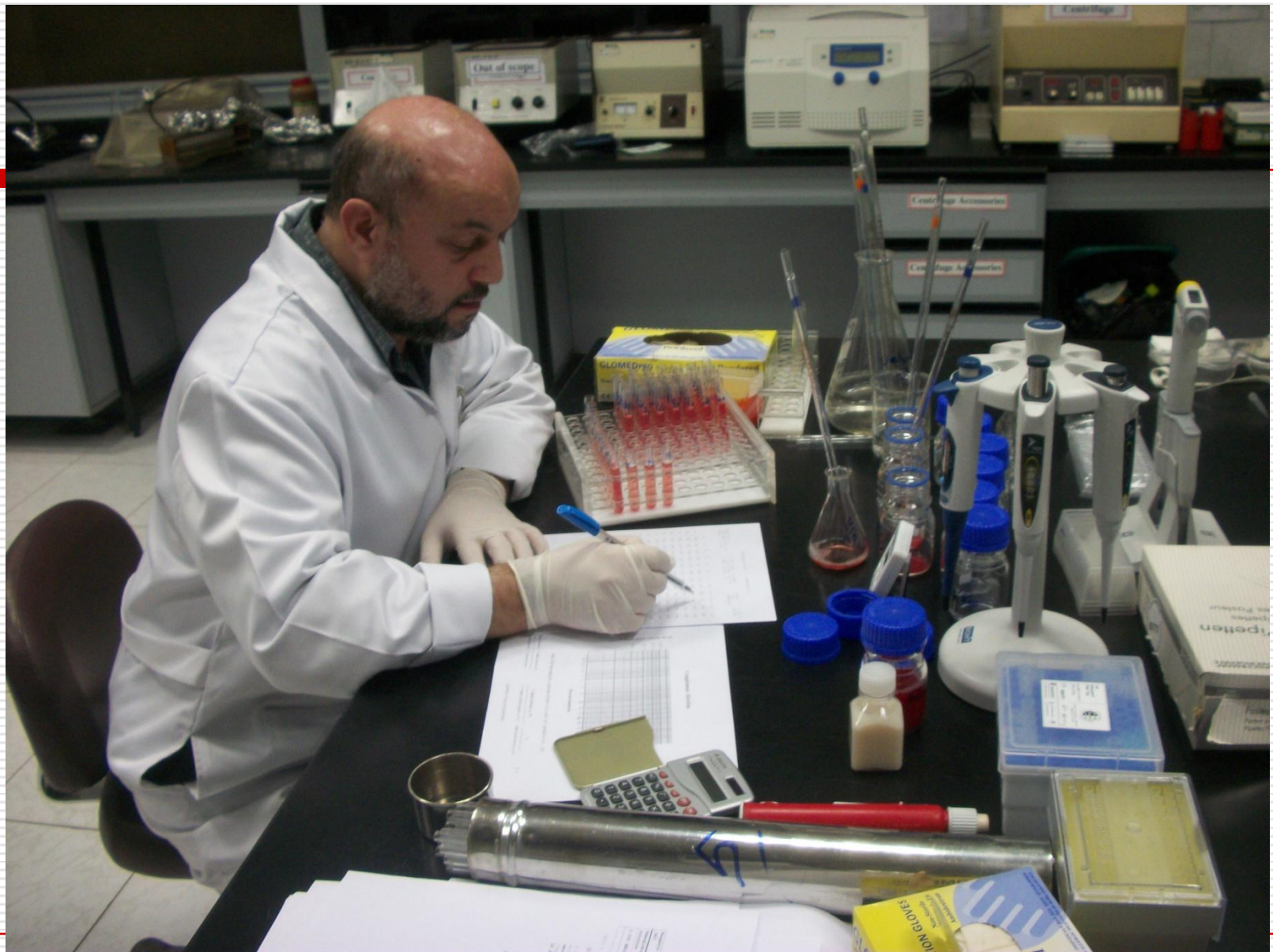


# Animal Health Research Institute













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Projects carried on AHRI:

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<b>Project Title</b>	<b>status</b>
<b>Avian Influenza Vaccine Evaluation project (USAID)</b>	<b>ongoing</b>
<b>Afra project include 34 African countries with Egypt under umbrella of IAEA for control and diagnosis of TAD</b>	<b>ongoing</b>
<b>FMD project (STDF)</b>	<b>ongoing</b>
<b>Advanced studies on mastitis in Egyptian cattle (STDF)</b>	<b>ongoing</b>

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<b>Project Title</b>	<b>status</b>
<b>Application of nanotechnology as a diagnosis tool for some ruminant diseases in Egypt. (STDF)</b>	<b>Under evaluation</b>
<b>Upgrading of fish fecundity for some Egyptian species ( FP7)</b>	<b>Under evaluation</b>
<b>Preparedness and Capacity building of BLS-3 for emerging epidemics in Egypt (STDF)</b>	<b>Under evaluation</b>
<b>Epidemiological role and seroservillence of RVF virus in camel in Egypt</b>	<b>Under evaluation</b>

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<b>Project Title</b>	<b>status</b>
<b>FMD Twining project with (WRL – UK-Pirbright)</b>	<b>Under evaluation</b>
<b>BVD Twining project with (VLA-UK- Webbridge)</b>	<b>Under evaluation</b>
<b>Egyptian Viral and bacterial strain bank (STDF)</b>	<b>Under evaluation</b>
<b>A novel biopesticide production: new biopesticide formulation for eradication of ectoparasities in farm animals (STDF)</b>	<b>Under evaluation</b>

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<b>Project Title</b>	<b>status</b>
<b>" Molecular &amp; pathological detection with epidemiological mapping of Bovine viral diarrhea disease in Egypt " ( STDF ) .</b>	<b>Ongoing</b>
<b>Sequencing and matching between new FMDV field isolates and bivalent vaccinal strains local produced in Egypt.</b>	<b>Under evaluation</b>
<b>The molecular characterization and mapping of Mycobacterium avium subspecies Paratuberculosis in Egypt</b>	<b>Under evaluation</b>

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<b>Project Title</b>	<b>status</b>
<b>Epidemiological mapping and molecular identification of tick and tick – borne parasites in farm animals with trials to produce diagnostic product for these Parasites.</b>	<b>Under evaluation</b>
<b>Epidemiological mapping of parasites infecting domestic animals in Egypt using parasitological , serological and molecular techniques .</b>	<b>Under evaluation</b>
<b>Improvement of control programs of Brucellosis in Egypt with attention to preventive measures for humans .</b>	<b>Under evaluation</b>

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# Proficiency tests

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PT supplier	No. of tests	Tests
<b>Avian Disease diagnosis :</b> <b>1-Veterinary laboratory agent (VLA, UK) (OIE reference lab for AI and NDV)</b>	<b>9</b>	<b>1- diagnosis and typing of AI using real time PCR</b> <b>2- diagnosis and typing of AI using conventional PCR</b> <b>3- sequencing of AI H5 and N1 genes</b> <b>4- diagnosis and typing of ND using real time PCR</b> <b>5- 2- diagnosis and typing of ND using conventional PCR</b> <b>6- sequencing of NDV genome</b> <b>7-diagnosis of Bovine Viral Diarrhoea using ELISA/PCR</b> <b>8- diagnosis of Enzootic Bovine leucosis using ELISA/AGIDT</b> <b>9- diagnosis of Equine infectious Anemia using AGIDT</b>
<b>2- Istituto Zooprofilattico Sperimentale delle Venezie (Italy) through FAO(OIE reference lab for AI and NDV)</b>	<b>1</b>	<b>1- diagnosis and typing of AI using real time PCR</b>

<b>PT supplier</b>	<b>No. of tests</b>	<b>Tests</b>
<b>3- South east poultry research lab (USA) (inter-lab comparison)</b>	<b>2</b>	<b>1- Real time PCR diagnosis and typing of AI</b> <b>2- sequencing of AI H5 and N1 genes</b> <b>3- HI testing</b>
<b>4- GD laboratories (Holand)</b>		<b>1.ELISA testing for poultry viral disease.</b> <b>2.HI testing for ND and AI.</b> <b>3.AGPT for poultry viral disease</b>
<b>5- Friedrich Loeffler Institute (FLI, Germany) (OIE reference lab for AI and NDV)</b>	<b>1</b>	<b>1- diagnosis and typing of AI using real time PCR</b> <b>2- sequencing of AI H5 gene</b>

PT supplier	No. of tests	Tests
<b>Food safety :</b> <b>1- FAPAS</b>	<b>13</b>	<ul style="list-style-type: none"> <li>- TVB- N</li> <li>- Moisture %</li> <li>- Ash %</li> <li>- Fat %</li> <li>- Total nitrogen</li> <li>- Aerobic plate count</li> <li>- Staphylococcus aureus count&amp; isolation</li> <li>- Entero bactericeae</li> <li>- Isolation of listeriamonocytogens</li> <li>- Isolation of salmonella</li> <li>- Media preparation and performance .</li> <li>- coliform count</li> <li>- E.coli coun</li> </ul>
<b>FERA</b>	<b>1</b>	<b>-meat aucenticity</b>

PT supplier	No. of tests	Tests
<b>Animal disease diagnosis :</b> <b>1-Weybridge</b>	<b>4</b>	<b>-Rose Bengal plate test</b> <b>- buffered acidified plate antigen test</b> <b>-Milk ring test</b> <b>-Serum agglutination test</b>
<b>2-Pribright Lab. UK</b>	<b>1</b>	<b>Serology diagnosis of Non –Infectious material 2 for FMD</b>





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# Thank You

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