



***Pathogens in Animal Manure –
Competence and Experiences
at National Institute Veterinary
Research (NIVR)***

Introduction



- 1** Research on pathogen presence and survival in manure and other organic wastes since 1970'ies. Focus on bacteria, parasites and virus.
- 2** Education, training and Extention
- 3** Not only research but also vaccin production and vet.drug
- 4** Intenational colabortion



Main research departments



1/ Bacteriology department

Well-equipped laboratories for traditional and modern (molecular-based) detection and characterization of bacterial pathogens focus on diseases cause by bacteria on reared animal for aspects:

- * Disease agent.*
- * Pathological, clinical and epidemiological characteristic.*
- * Dianostic technique and prevention measures including trials of new drugs and vaccine development*

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Main research departments



2/ Veterinary Hygiene department

Task is to research on pollution of animal feed, traditional method of cultivation and isolation bacteria in animal manure e.g Salmonella, E.coli, Clostridium.

+ Study on influence of biology product (EM Bokashi product) on digestive microbial system, animal waste and some hygienic parameters of animal raising environment.

+ Residue antibiotics determination, heavy metals and chemicals (pesticides) in animal origin, food and milk product.



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Main research departments



3/ Biochemistry- Immunology Pathology department

+ *Expertise within modern method (molecular- base) for isolation, characterization and typing of bacteria.*

+ *Diagnosis of animal diseases, vaccine development and study on pathological and pathoanatomical characteristics of animal diseases, e.g Pasteurellosis in cattle and buffalo, Haemorrhagic septicaemia in cattle and buffalo.*

+ *Study on application of biotechnology and molecular biology to produce kit set used in immunological diagnostic test for animal diseases.*



Main research departments



4/ Virology department

+ Survey on infection status of viral diseases (BT, IBR, BVD, PI3,...) in cattle and buffalo herds in some representative province in Vietnam.

+ Study on dynamic of antibody titer against of diseases cause by virua at pig raising farms, e.g Hog cholera virus.

+ Vaccin development.



Main research departments



5/ Parasitology department

- + To study on disease agent, lifecycle of parasite, pathological.*
- + Clinical characteristics of diseases causes by protozoa and helminthes*
- + Epidemiological chracteristic of parsitic diseases in reared anima.*
- + Application of immunological teechniques to diagnose parasitic diseases and prevent.*



The need of research and capacity building in the manure management at veterinary hygiene aspect covered by NIVR

1/ Molecular methods for pathogen detection have value and should be applied.

2/ Importance of a better understanding of the survival of pathogens in the manure (temperature, supplement, land use or soil condition).

3/ Epidemiology and modelling of pathogens and indicator bacteria survival.

4/Health risks

- * Pathogens
- * Unwanted organic material
- * Hormones
- * Antibiotics
- * Aquatic life more vulnerable than terrestrial life



The need of research and capacity building in the manure management at veterinary hygiene aspect covered by NIVR (cont.)

5/ Carry out survey to collect information related/relevant for the hygiene aspects of biogas digesters. Current situation of the use of the biogas effluent as fertilizer in the household garden or as fertilizer in fish ponds.

6/ To improve the capacity to organize the training course for farmers and local participants in recently about impact of animal waste on the environment and transmitted of animal disease to humans. Extension practitioners and farmer communities.





Thank You !