

# RANEMA e-learning

RANEMA e-learning  
a distance learning tool for basic epidemiology

Training on basic epidemiology applied to livestock production in the tropics

## What is RANEMA ?

CIRAD, in collaboration with the National Veterinary School of Alfort, already developed a computer assisted learning material in basic epidemiology, Ranema. Based on that experience and using the same approach, that says putting the trainee into different situations, Ranema-Flu module was developed involving different researchers with epidemiological, ornithological or training skills and using E-learning maker © software. It is used as a distance-learning training support in basic epidemiology and also as a support for group training using additional pedagogic supports (complementary exercises and pedagogic guidelines). A specific RANEMA package has been created for HPAI in poultry (see above) and a package about Classical and African Swine Fever will be shortly developed.

## RANEMA-FLU Presentation

In the frame of the training activities of CIRAD within the 5 regional TCPs ?Emergency Assistance for early detection and prevention of Avian Influenza?, it was proposed to create a specific module on Highly Pathogenic Avian Influenza, called RANEMA-Flu.

### Chapter 1. Epidemiology of avian influenza

#### Lesson 1. Review of Virology

- The trainee will review basic information on virus structure, genetic and pathogenicity characteristics.

#### Lesson 2. Diagnosis

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- The trainee will review the different types of samples needed for HPAI diagnosis
- The trainee will understand the main requirements for sample transport in the field and for international shipment
- The trainee will review a summary of the main diagnosis methods for virology and serology

#### Lesson 3. Ecology and Epidemiology of AI virus

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- The trainee will understand the principal introduction routes of HPAI in a country

#### Lesson 4

##### . Public Health aspects of AI virus

- The trainee will review the public health issues related to AI viruses
- The trainee will understand who is the population at-risk will be given additional reading about the prevention measures to be undertaken.

## Lesson 5. Prevention and control of the virus

- The trainee will review the control strategies including the definitions of infected, restricted and control areas and main methods for culling and disinfection
- The trainee will review the bio security requirements within a farm in order to prevent from AI infection
- The trainee will review the main vaccines available for prevention as well as the different vaccination strategies

## Chapter 2. Surveillance of the HPAI

### Lesson 1. Case-definition adapted to the HPAI H5N1

- The trainee will understand the importance of choosing an appropriate case-definition when dealing with surveillance in general and HPAI in particular
- The trainee will understand the concept of sensitivity applied to a surveillance network
- The trainee will understand the principal steps of the investigation of a suspect case, including case confirmation and tracing back and forward in the case of AI
- The trainee will be able to discuss the use of epidemiological findings and laboratory results in an epizootic context.

### Lesson 2. Surveillance methods for the domestic poultry

- The trainee will review the general principles for HPAI surveillance based on FAO and OIE guidelines including the concept of targeted and sentinel population surveillance.

- The trainee will be able to determine an appropriate expected prevalence when designing a surveillance protocol for HPAI.

- The trainee will review the objectives and recommendations of the surveillance on vaccinated populations

## Lesson 3. Sample size calculation using software

- The trainee will understand the difference between the two approaches: estimating a percentage and detecting a disease
- The trainee will be able to use Winepiscopo and FreeCalc software to calculate a sample size for surveillance purpose and to interpret the results of its work.

# Chapter 3. Wild birds and Avian Influenza

## Lesson 1 HPAI and wild birds

- To present a review of avian influenza in different birds species
- To describe ecological criteria important to identify higher risk species.

## Lesson 2. Birds migration

- To present the main concepts and strategies of bird migration and bird movement.
- To describe the regional bird migration systems (adapted to the version of Ranema), focused on higher risk species

## Lesson 3 Wild birds study

- To present available set of techniques for monitoring bird populations, with a specific concern on birds migration.
- To describe the main bird census techniques
- To describe the main birds capture techniques

## Lesson 4. Birds species recognition

General objective: provide key element for identification of selected water birds

# Chapter 4. Introduction to Risk Analysis

## Lesson 1. General principles of risk analysis

- The trainee will understand the general principals of the risk analysis focusing on qualitative risk assessment.

## Lesson 2. Application to HPAI

- The trainee will apply the general principals of the qualitative risk assessment to the exemple of the risk of introduction of HPAI

## Chapter 5. Resources

This chapter will provide technical related documents on the following topics:

- Emergency preparedness and contingency plans
- Destruction and disposal methods
- vaccines for AI
- diagnosis methods
- vaccines for Aldiagnosis methods



[Poster\\_RANEMAvrdef-1.pdf\[144,72kB\]](#)

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