ITEM 6. SERO-SURVEILLANCE IN TURKEY: THE QUESTION OF HARMONISING THE PERFORMANCE/INTERPRETATION OF SP ANTIBODY DATA WITH/BETWEEN RG MEMBER LABORATORIES

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ANATOLIAN SEROSURVEILLANCE DESIGN

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Background

- Anatolia has endemic FMD
- No reliable estimate of prevalence
- Improved control of FMD requires an accurate estimate of disease prevalence
- To this end, a serosurveillance plan has been designed which will estimate the current prevalence in Anatolia within the framework of implementing current EUPMD project
- This serosurveillance design can be repeated annually for the next 2 years to provide an estimate of changing disease prevalence, facilitating the assessment of control plan efficacy.

Objective

- To provide an estimate of the proportion of seropositivity to non-structural FMD proteins in cattle Anatolia.
- To assess vaccine efficacy in selected provinces by measuring antibody levels to structural FMD proteins at day 30 post-vaccination in cattle.

Survey design

- Some data based on design:
  - Target population: cattle
  - Pop: Size: 10,390,000
  - 60% of which has 1:4 antibodies, i.e., 650,000 animals
  - Village numbers: 107,438 in Turkey database, 32,000 in Internal Ministry records
  - 25,000 of these villages have less than 100 cattle
  - Many of these small villages are actually sub-units of larger villages and therefore are effectively not epidemiological units in their own right
  - It was decided to remove these villages from the list of units to be sampled as there was uncertainty surrounding the actual number of cattle present in these villages
  - The total number of cattle reported to be present in these excluded small units is 106,000.

- Village was selected as the basic epidemiological unit
- Two-stage sampling was made
- Aging of animal was clustered
- But stratified was not made on the region
- Whole Anatolia region was considered as same criteria based on the sampling

Survey design

- Selection villages for inclusion in the study: first stage sampling
  - The number of villages selected was 565.
  - To detect FMD at a prevalence of 2% with a 95% confidence interval,
    - Using test criteria of 88% sensitivity and 99% specificity (for areas in which vaccination is carried out)
Survey design

- the second stage sampling
  - Using the mean number of cattle per village,
  - to detect a prevalence of 10% with a confidence level of 95%,
  - given a test sensitivity in vaccinated populations of 88% and a specificity of 99%.
  - It was calculated that selecting 60 cattle per village; epi unit
  - This gives a total number of samples of 33,900.
  - cattle age clustered between 4 months and 24 months in each village

Survey design for SP

- select villages for estimating vaccine efficacy:
  - 3 provinces will be selected within each of 7 regions and
  - 3 villages selected within each selected province.
  - These provinces and villages will be selected at random from the list of villages included in the main NSP serosurveillance study.
  - In each village, 60 cattle in the target age group will be sampled, giving a total of 3,780 samples.

Thrace Region 2008

- Eradication program: To substantiate free from FMD with vaccination;
  - Serosurveillance study was design
  - Plan was the same as previous years
  - Two stage sampling:
    - 152 villages was selected, to detect FMD at a prevalence of 2% with a 95% confidence interval
    - Within the village, 64 animals were calculated per village; to detect a prevalence of 10% with a confidence level of 95%.
  - As a total 9780 Cattle will be sampled aged between 4 and 24 month