

Considerations for the design of your project



Design & Implementation Considerations

- Program aim or goal
 - Is the most important consideration
 - Require clearly defined project objectives
- Reference population
 - Imposed by the aim of the project
- Sampling techniques
 - Imposed by the aim of the project
 - Sample selection/sample size
 - case definition/study population

Project Aim

- What is the aim of the programs below?
 - Project to determine the amount of Scrapie in sheep in the USA
 - Brucellosis program
 - Project to determine the level of biosecurity in USA dairy operations
 - BSE testing in the USA
 - Market Cattle Identification

Sampling Techniques

- Three typical situations
 - require different types of sampling
 - require different means to calculate sample size
- 1. Sampling to detect disease
 - Outbreak investigations
 - flock/herd diagnosis
 - disease freedom certification

Sampling Techniques

2. Sampling to estimate prevalence
 - Prevalence survey
3. Sampling to detect a difference in prevalence or incidence between groups
 - Risk factor studies
 - Clinical trials
- Sampling type and sample size depends on the purpose of the investigation or the question to be answered.

Sample Size and what does it mean?

- Detection of a case/diseased individual vs. estimation of the level of the disease in a population.
- The larger the number of cases in a population (high prevalence level) the less sample size you need to detect a case.
- The higher prevalence level in a population the larger the sample size you need to have a reliable estimation of the actual prevalence.