**Representativeness** is understood as the extent to which the features of the population of interest are reflected by the population included in the surveillance activity. These features may include herd size, production type, age, sex or geographical location or time of sampling (important for some systems e.g. for vector-borne infection).

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| | Surveillance design step | Advice for improvement of REPRESENTATIVENESS |
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| **1** | **Surveillance system** | |
| **1.1** | **Hazard** | |
| **1.2** | **Surv. Objective** | |
| **1.3** | **Geographical area covered** | |
| **1.4** | **Susceptible species** | |
| **1.5** | **Risk characteristics** | |
| **2** | **Components overview** | |
| **3** | **Target population** | |
| **3.1** | **Target species** | |
| **3.2** | **Target sector** | |
| **3.3** | **Sectors missed** | |
| **3.4** | **Geographical area covered** | |
| **3.5** | **Target criteria** | |
| **3.6** | **Percentage covered** | |
| **4** | **Disease suspicion** | |
| **4.1** | **Definition** | |
| **4.2** | **Obligations** | |
| **4.3** | **Notification procedures** | |
| **4.4** | **Actions upon suspicions** | |
| **4.5** | **Actions upon confirmation** | |
| **5** | **Enhancements** | |
| **6** | **Testing protocol** | In case costs are not (fully) subsidised, the cost of testing may deter certain groups of animal owners from participating in the surveillance system, leading to systematic differences in characteristics of individuals who chose to participate or not. In this case, consider choosing a cheaper test, subsidizing testing costs, running public awareness campaigns or providing specific veterinary advice to illustrate benefits of testing the animals |
| **6.1** | **Type of test to be carried out** | |
| **6.2** | **Type of sample to be collected** | Consider sample types that do not introduce systematic errors. For example some sample types may be difficult to collect from certain population strata (e.g. blood samples from young animals) or may lead to non-participation (e.g. post-mortem). |
| **6.3** | **Pooling** | |
| **6.4** | **Screening/first test** | |
| **6.5** | **Confirmatory/ second test** | |

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| **6.6** | **Further details** | |
| **7** | **Study design** | Pay careful attention to study design as it affects representativeness. |
| **7.1** | **Point of sample collection** | The sampling point determines which individuals of the target population are eligible to be selected for surveillance. Poor representativeness can arise for example if the sampling point does not provide adequate access to the target population or if sampling units are likely to be non-responsive. Hence, carefully consider such issues when selecting the sampling point. Once a sampling point has been chosen, carefully check the sampling frame that it is a) up to date, b) complete, and c) representative (e.g. farms not delivering animals to abattoir) to ensure representativeness. |
| **7.2** | **Selection of units** | |
| **7.3** | **Target unit** | |
| **7.4** | **Sampling unit** | |
| **7.5** | **Sampling design** | |
| **7.6** | **Number of units in the target population** | |
| **7.7** | **Sensitivity of the testing protocol** | |
| **7.8** | **Specificity of the testing protocol** | |
| **8** | **Sampling strategy** | |
| **8.1** | **Sampling at the primary sampling unit (PSU) level:** | |
| **8.2** | **Sampling at the secondary sampling unit (SSU) level:** | |
| **8.3** | **Selection criteria WITHIN the population** | |
| **8.4** | **Risk-based allocation** | |
| **8.5** | **Sample size calculation** | |
| **8.6** | **Sample allocation at the primary level** | |
| **8.7** | **Sample allocation at the Secondary level** | |
| **8.8** | **Sample collection timeline** | |
| **9** | **Data Generation/ Sampling collection process** | |
| **9.1** | **WHO will collect the samples?** | |
| **9.2** | **HOW will samples be collected?** | This attribute is important if the purpose is to determine within-herd prevalence. But for determining herd status (finding cases) a risk-based sampling approach within herd may be more appropriate. |
| **9.3** | **WHEN/HOW OFTEN will samples be collected?** | |
| **9.4** | **Training** | |

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| **9.5** | **Follow-up** | If lack of follow up means we will not be able to fulfil our sampling plan, so that the samples we get are e.g. from the same place, this will influence representativeness. |
| **10** | **Transfer means** | |
| **10.1** | **HOW will samples be transferred?** | |
| **10.2** | **WHEN/HOW OFTEN will samples be collected?** | |
| **10.3** | **Training** | |
| **11** | **Data Translation/ sample analyses process** | |
| **11.1** | **WHO will perform the analyses?** | |
| **11.2** | **HOW will samples be analysed** | |
| **11.3** | **WHEN/HOW OFTEN will samples be collected?** | |
| **11.4** | **Expected LOAD** | |
| **11.5** | **Training** | |
| **11.6** | **Follow-up** | |
| **12** | **Epidemiological analyses** | |
| **12.1** | **Are there any epidemiological DATA that need to be collected?** | The collection of additional data about the population can help understand and assess the representativeness of the samples collected. This can help identify areas for improvement in the longer term (eg in continuous surveillance) or can be used in final analyses to adjust for under or over sampling in some sectors (eg in prevalence surveys). |
| **12.2** | **WHO will perform the analyses?** | |
| **12.3** | **HOW will epidemiological analyses be performed?** | |
| **12.4** | **WHEN/HOW OFTEN?** | |
| **12.5** | **Training** | |
| **12.6** | **Data management needs** | |
| **12.7** | **Software needs** | |
| **13** | **Dissemination of results** | |
| **13.1** | **WHO will disseminate the results?** | |
| **13.2** | **WHO is the TARGET of dissemination?** | |
| **13.3** | **HOW will results be disseminated?** | |
| **13.4** | **WHEN/HOW OFTEN?** | |
| **14** | **Surveillance review** | |
| **14.1** | **Who** | |
| **14.2** | **When** | |
| **14.3** | **How often** | |