Negative predictive value refers to the proportion of epidemiological units (e.g. animal, holding, herd) classified as free from disease or infection by the surveillance system which are actually free from disease or infection. It depends partly on the sensitivity and specificity of the surveillance system, but is also influenced by the disease prevalence in the target population

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	Surveillance design step	Advice for improvement of NEGATIVE PREDICTIVE VALUE
1	**Surveillance system**	
1.1	**Hazard**	
1.2	**Surv. Objective**	
1.3	**Geographical area covered**	
1.4	**Susceptible species**	
1.5	**Risk characteristics**	Can be increased by taking differences in the risk of introduction into account. Geographical: NPV can possibly be increased by targeting for example areas with high population densities, complex movement patterns, special geographical features or other population level risks or high-risk periods that may affect the risk of introduction or infection.
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**	Consider choosing a test with higher analytical sensitivity to increase NPV.
6.1	**Type of test to be carried out**	

6.2	**Type of sample to be collected**	Choose a sample type that provides a high likelihood of detecting the hazard in question. Some sample types may contain the hazard, but may not be sufficient for detection (e.g. fecal samples may not contain live virus anymore or contain PCR inhibitors). The likelihood of hazard detection may also depend for example on species (e.g. ducks excrete AI viruses rather via the gastro-intestinal route whilst chickens excrete them rather via the oropharyngeal route), production type or age.
6.3	**Pooling**	Pooling will increase the NPV when inference is made at animal level, but it will reduce it in case the inference is made at herd level.
6.4	**Screening/first test**	Consider choosing a test with higher analytical sensitivity to increase NPV.
6.5	**Confirmatory/ second test**	Aim for a highly sensitive test. Also consider factors affecting diagnostic sensitivity in the field or in the laboratory such as adequate cool chain, training of field and laboratory staff, quality assurance in the field and in the laboratory, use of positive controls.
6.6	**Further details**	
7	**Study design**	
7.1	**Point of sample collection**	
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?**	
9.3	**WHEN/HOW OFTEN will samples be collected?**	
9.4	**Training**	
9.5	**Follow-up**	
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?**	
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**	