

Sampling protocol for soft ticks in pig-pens and natural habitats

In pig-pens:

Step 1: Meeting with local authorities and all farmers of each village in order to present the aims of the project (foreseeing a simple draft in local language with pictures), explain the different transmission pathways of AFSV and justify tick collection as the assessment of one of the risk factors.

Step 2: Selection of “x” farms to examine for ticks. We should likely focus on farms which have been already sampled for pig taking of blood in order to link results from tick sampling in farm and anti-tick ELISA on pig samples.

We define a farm as the different entities owned by the same farmer. One farm may have several buildings but is managed by the same owner (same treatments, prevention...).

The “x” number of farms to sample in each village is determined using WINEPISCOPE according to the estimated number of farms in each village (enquiry data and official reports) and the estimated proportion of farms infested by soft ticks after an ASF epizooty (literature data) with a 95% confidence interval.

The “y” maximum number of buildings to sample in each farm is determined by the mean of buildings observed in 10 randomly selected farms visited in the study area.

Step 3: Tick collection by manual collection and cleaning vacuum aspirating. Different parts of each building must be examined: cracks and holes around the building (inside and outside), the litter of the building (sand, straw, wood floor, bran litter...), the walls of the building (cracks inside cement bricks or muddy walls, barks of woody poles or fences...), the roof of the building (skeleton, straw or tiles covering the skeleton...). For biosecurity, clean your shoes and clothes with detergent between each farm.

Step 4: Complete one commemorative file for each farm and one record form sample if soft ticks are found.

Step 5: Final meeting with local authorities and all farmers of each village in order to report results of tick collection in farms. If ticks are present in some farms, they might be present in some others which were not examined. Then, propose chemical treatments against dust mites for buildings.

In natural habitats: warthog burrows, bushpig nests or bushpig traps/enclosure

Step 1: The “x” number of warthog burrows or bushpig nests to sample in each study area is determined using WINEPISCOPE according to the estimated density of warthog/bushpig burrows (literature data) and the estimated proportion of burrows infested by soft ticks (literature data) with a 95% confidence interval.

For bushpig traps or enclosure, it is likely to examine every trap/enclosure we encountered because of their low number per hunter village.

Step 2: Tick collection is made by manual collection and cleaning vacuum aspirating according to the humidity and the accessibility of the habitat.

Step 3: If no soft ticks are found in the study area, it should be interesting to examine other types of burrows (rodent, hyena, other mammals) to conclude of the absence of soft ticks in the whole area or inside warthog burrows, bushpig nests and/or bushpig trap/enclosure.

Step 4: Complete one commemorative file for each burrow, nest or trap and one record form sample if soft ticks are found.