

How to collect oral fluids

1. Determine the number of samples that you need to collect.

The number of samples needed to detect the disease can be calculated using the prevalence of the virus on the farm. The lower the prevalence, the more samples you will need to find the virus. For example, in a barn containing 1000 pigs, if the prevalence is 10%, in order to be 95% confident that you will find at least one positive animal, you need to test 30 animals. For oral fluid collection, usually 5-10 pigs in a pen will chew on the rope and contribute to the oral fluid sample. Therefore, 3-6 oral fluid samples should be sufficient.

2. Determine which pens to sample.

For diseases like influenza, where the virus is only detectable for approximately 1 week, it is important to sample pigs that are in the early stage of infection. This may be the pigs in the pen next to the ones with the most obvious clinical signs.

If you are performing routine surveillance, then you should spread the samples throughout the barn.

If you wanted to sample 6 pens in each barn, first divide the total number of pens by 6. Then count off each pen in order and sample accordingly. For example, if there are 18 pens, sample every 3rd pen (**Figure 1**). If there were 40 pens, sample every 6th pen as follows: 6, 12, 18, 24, 30 and 36.

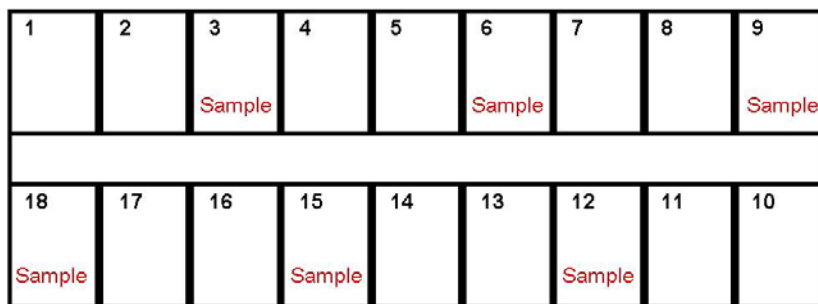


Figure 1. Diagram showing which 6 pens to sample in a barn containing 18 pens.

3. Suspend the rope in the pen.

The rope should be suspended within a clean area of the pen so that it is easily accessed by several pigs at the same time (**Figure 2a**). The rope should be tied to a sturdy gate where several pigs are able to reach it, but try to avoid tying the rope near waterers and feeders. The rope should be long enough to reach the shoulder of the pigs, but should be trimmed if longer to avoid fecal contamination. Let the pigs chew on the rope for 30 minutes.

4. Wring the sample out of the rope into a plastic bag.

Hold the dry end of the rope with one hand and insert the wet end of the rope into a clean plastic bag (**Figure 2b**). Twist the rope inside the bag to extract the oral fluids. To avoid cross contamination, change gloves between samples.

5. Cut a corner of the plastic and pour into the tube.

Since the large particles will sink to the bottom and account for a large portion of the sample, try to collect at least 5 ml of oral fluids (**Figure 2c**). Be sure to label the tube with a pen and barn number if you want it for future reference.



6. Samples that are not tested within 24 hours of collection should be immediately frozen.

7. Ship samples to the University of Minnesota, Veterinary Diagnostic Laboratory in an insulated leak-proof transport container on ice packs with appropriate paperwork.