AeroCollect®

Detecting *Mycoplasma* with AeroCollect® – quick, simple, and accurate

- **Simple sampling** – an air sample with AeroCollect® is simpler and considerably less time consuming compared to standard samples.
- **Testing of a whole flock** – with AeroCollect® there is no need to rely on a few samples from individuals. The whole flock is represented by a single air sample.
- **Quick test results** – the air sample from AeroCollect® can be processed within as little as 1-2 hours in a lab compared to traditional testing which can take days.
- **Closer monitoring of *Mycoplasma* in flocks** – with simple sampling and quick results come the prospect of improved monitoring, quick detection, and improved production management.

Detection of *Mycoplasma* with AeroCollect® compared to traditional testing

A prevalidation study has been carried out to demonstrate that *Mycoplasma* can be detected with the AeroCollect® technology.

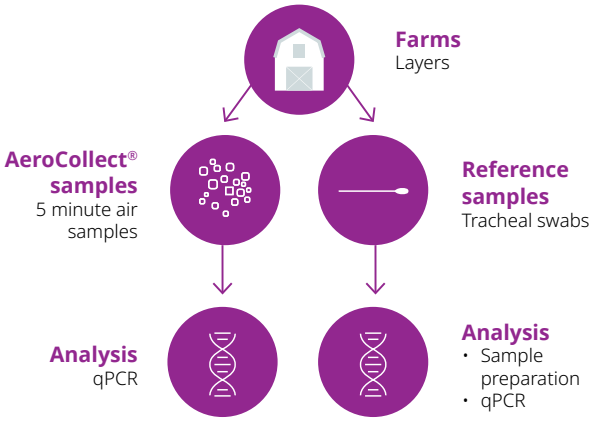
In the study, samples were collected from a layer flock infected with *Mycoplasma synoviae* and from several negative control flocks. The AeroCollect® samples were compared to corresponding tracheal swabs collected from the positive and negative flocks.

The results were analyzed in accordance with the guidelines for validating microbiological alternative methods against reference methods as described in the harmonized Standard by NordVal. 100% agreement was observed between the air sample results and the results of the collected standard samples. The prevalidation study indicates a perfect agreement between the two methods. Neither false positive or false negative samples were found in the prevalidation study.

The results indicate that *Mycoplasma synoviae* can be effectively captured and detected by qPCR using AeroCollect®.

Cohen's kappa value **= 1**

Total number of samples		**61**
Positive agreement	PA	40
Negative agreement	NA	21
False positive	FP	0
False negative	FN	0



Multiple pathogen testing

An additional benefit that is generic to the AeroCollect® system is that each sample contains enough material for several analyses. Therefore, it is possible to screen for the most common production related pathogens in your region (i.e. Avian influenza, IBV, IBDV, APEC, mycoplasmosis, Marek's disease) on the same sample that is collected e.g. for the *Campylobacter* and *Salmonella* tests. Eluted samples may be stored centrally as a sample library of previous rotations should the need arise for further analyses of previous flocks. Note, that the AeroCollect® samples contain both respiratory and intestinal pathogens and may be analysed for both bacteria and virus.

The process from sample collection to result

When should testing with AeroCollect® take place?

As testing with AeroCollect® is simple and the analysis is quick, testing can be done often and easily. Frequent testing and quick results allow for improved monitoring for the presence of *Mycoplasma* in flocks, which is the best foundation for timely detection of outbreaks. This increases the chances of successfully dealing with an outbreak with minimal consequence to the production and welfare of the flock.

The AeroCollect® samples can also be utilized to monitor the vaccination procedure as seen in the section below.

Comparison Study

The AeroCollect® technology can be used to monitor vaccination procedures in poultry houses. In a third party study AeroCollect® samples were compared to those of pooled tracheal swabs. Samples were collected weekly following a MS-H vaccine (at age 8 weeks) for a period of 28 days post vaccination. In the table below, the results from the analyses of the pooled tracheal swabs (5 swabs) and AeroCollect® samples are shown.

Sample	**Days post vaccination**					
	Day 1	**Day 5**	**Day 10**	**Day 17**	**Day 24**	**Day 28**
Tracheal swab	Neg	Pos (Ct 39.8)	Neg	Pos (Ct 36.0)	Pos (Ct 33.5)	Pos (Ct 34.5)
AeroCollect®	Neg	Pos (Ct 38.0)	Neg	Pos (Ct 36.7)	Pos (Ct36.2)	Neg

Official evaluation from the study:
"In general, the AeroCollect showed similar results as the reference method (tracheal-swabs). In addition, the CT values of the AeroCollect are in the same range as the CT-values of the tracheal-swabs. This demonstrates that the use of AeroCollect to detect Mycoplasma is as effective as using tracheal-swabs"

Would you like to learn more about what AeroCollect® can do for you and your company?

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