



# Detecting Infectious Bronchitis Virus (IBV) with AeroCollect®

## – quick, accurate and cost-effective

- **Easy testing of the 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 and cost-effective testing** – testing with AeroCollect® is very simple and a sample can be collected by the staff at the farm. The air samples are collected in less time than the traditional spot tests.
- **Optimized production** – monitor the presence of IBV in the flock, the efficiency of vaccines, and/or the presence of wild strains of IBV in the flock. Utilize this knowledge to improve the production and the timing of vaccination.

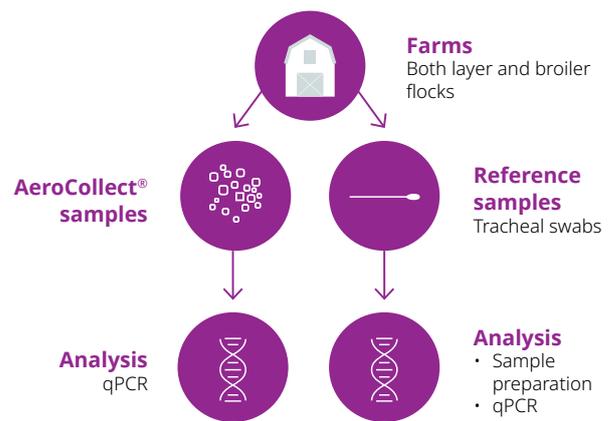
### Detection of Infectious bronchitis virus with AeroCollect® compared to traditional testing

The AeroCollect® system is validated for the detection of IBV in poultry samples in accordance with the guidelines described in EN ISO 16140-02:2016. The study was carried out in both naturally infected and vaccinated herds using either tracheal swabs as the golden standard or vaccine status, respectively. The study demonstrated a sensitivity, specificity, and accuracy of 97.8, 97.7, and 97.8, respectively. The measure of agreement between the two methods, Cohen's kappa, was found to be 0.95 which constitutes a "Near perfect" agreement according to the ISO-standard.

The validation study included both layers and broiler flocks. Also the study was conducted to ensure that both vaccine strains could be found in the air after vaccination procedure and wild strains from naturally infected flocks using the same analysis procedure.

#### Compared to tracheal swab

Sensitivity	SE	97.8 %
Specificity	SP	97.7 %
Accuracy	AC	97.8 %
Cohen's Kappa	κ	0.95 (Near perfect agreement)



### Multiple pathogen testing

An additional benefit that is generic to the AeroCollect® system is that each sample contain 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, APEC, mycoplasmosis, Marek's disease) on the same sample that is collected for the *Campylobacter* and *Salmonella* tests. Or the eluted samples may be stored centrally as a sample library of previous rotations should the need arise for further analysis 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 IBV 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. Furthermore, vaccination procedures can be arranged for the following rotations. The AeroCollect® samples can also be utilized to monitor the vaccination procedure as seen in the figure below. The course of virus development in the air is quite different for vaccine and wild strains.

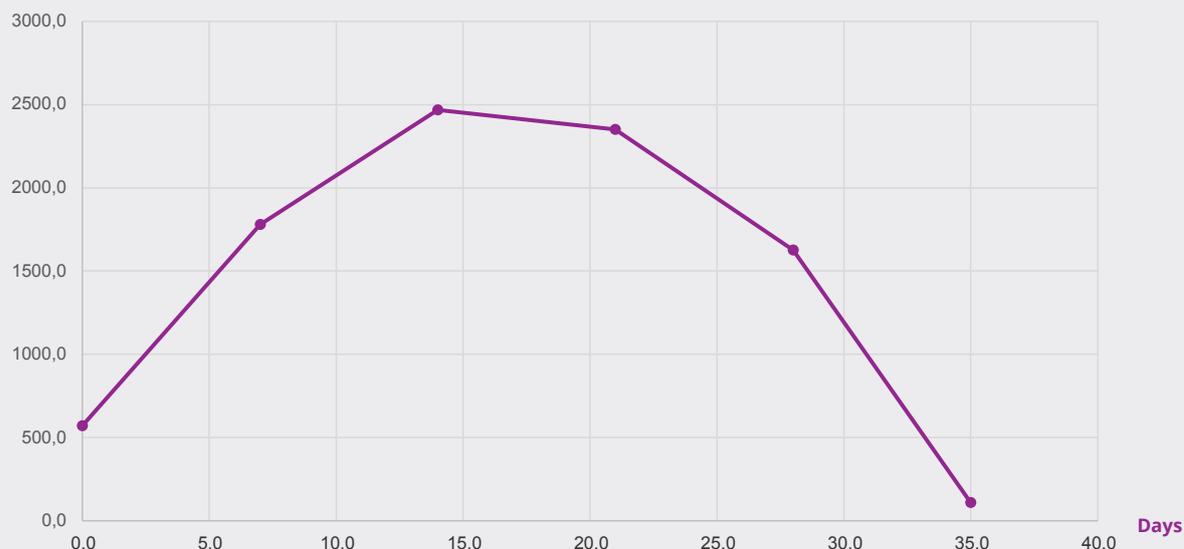
#### IBV Vaccination Profile

The presence of virus in the air following vaccination procedures gives indications on the success of the vaccination procedure. The curve shows the average amount of virus over time in a broiler flock vaccinated at the hatchery and contains data from many different rotations.

The shape of the curve gives valuable information on both the administration of the vaccine and if a wild strain is also present in the house. The curve from a wild strain typically looks very different from the curves found in a vaccinated house. Should a wild strain be present a more exponential growth that does not reach the declining state is expected.

Concentration  
[Arbitrary units]

Average IBV vaccination curve



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

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