



# Detecting *Campylobacter* with AeroCollect® – simple testing, quick results and earlier detection

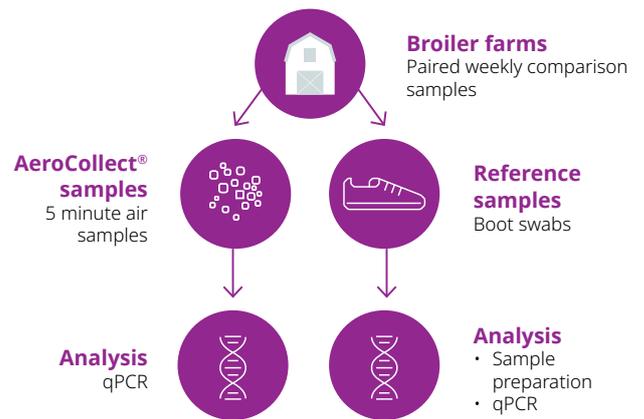
- **Simple sampling** – an air sample with AeroCollect® is simpler and considerably less time consuming to handle compared to boot swabs.
- **Quick test results** – the AeroCollect® air sample can be processed within as little as 1-2 hours in a lab compared to traditional testing which can take days.
- **Detect *Campylobacter* earlier** – AeroCollect® has an increased sensitivity to *Campylobacter* and earlier detection minimizes the risk of *Campylobacter*-positive broilers going to a *Campylobacter*-negative processing line.
- **Measure the intensity quickly** – AeroCollect® enables an up-to-date overview of the development of an outbreak, which makes it possible to accurately evaluate the need for action.

### Detection of *Campylobacter* with AeroCollect® compared to traditional testing

The AeroCollect® system is validated for the detection of *Campylobacter* in poultry samples in accordance with the guidelines described in EN ISO 16140-02:2016. The study was carried out as a blinded paired study comparing the air samples with the traditional boot swabs. The study demonstrated a sensitivity, specificity, and accuracy of 95.0, 91.9, and 93.3, respectively. The measure of agreement between the two methods, Cohen's kappa, was found to be 0.87 which constitutes a "very good agreement" according to the ISO-standard.

Furthermore, the validation study establishes that the sensitivity of the AeroCollect® samples is higher than that of the boot swabs. This means that AeroCollect® detects *Campylobacter* earlier – up to 5 days before a boot swab. The earlier detection time is the main reason for discrepancy between the two methods. In the right-most column, the sensitivity, specificity and accuracy is given when the results of the AeroCollect® air samples are compared the true status of the house, which renders a "Near perfect" agreement.

		Compared to boot swabs	Compared to true results
Sensitivity	SE	95.0 %	96.0 %
Specificity	SP	91.9 %	100 %
Accuracy	AC	93.3 %	98.0 %
Cohen's Kappa	κ	0.87 (very good agreement)	0.96 (Near perfect agreement)



### Multiple pathogen testing

An additional benefit that is generic to the AeroCollect® is that each sample contains enough material for several analyses. Therefore, it is possible to screen for a range of 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 e.g. the *Campylobacter* and *Salmonella* tests. The eluted samples may also 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?

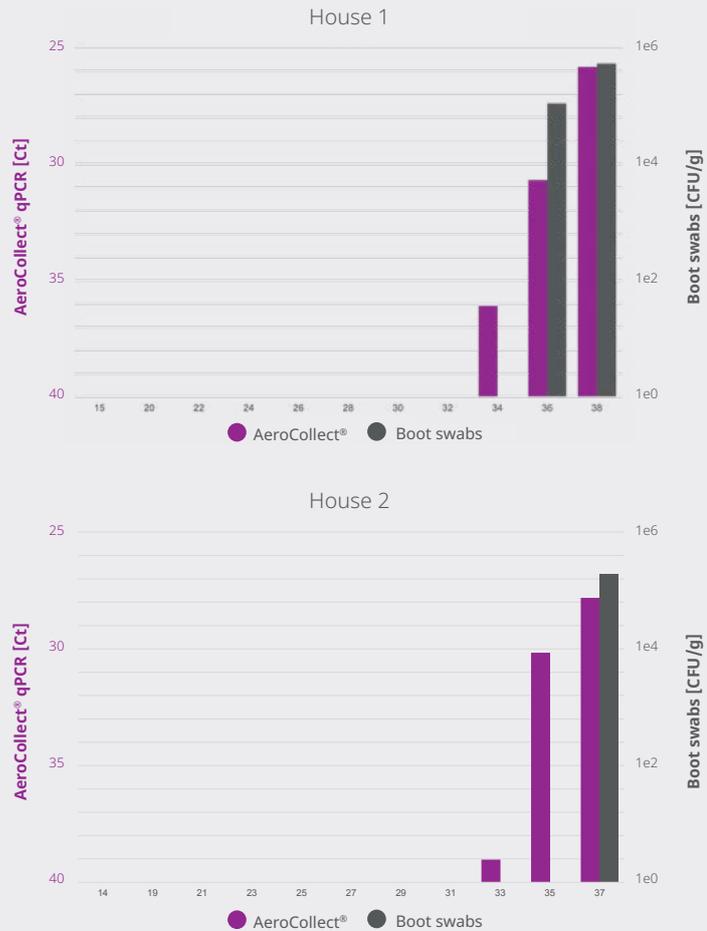
AeroCollect® allows for frequent testing and quick results providing better monitoring of *Campylobacter* in flocks. This provides the best basis for improved production management throughout the rotation. Testing in broilers near the day of slaughter minimizes the risk of undiscovered *Campylobacter*, and increases the profitability of the processing line.

### Comparison study

Blinded comparison study between AeroCollect® samples and traditional boot swabs. The study was conducted in two different sheds with traditional broilers. The broilers were naturally infected with *Campylobacter*.

In the diagrams, results from both AeroCollect® samples and traditional boot swabs from the two houses are shown. Samples were collected every other day.

In this study the AeroCollect® was able to detect the emerging infection minimum two days prior to the traditional boot swabs.



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

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