

Development of flynet-systems for broiler houses to protect against introduction of flies carrying Campylobacter

An Activity in
the Danish
Campylobacter
Action Plan for
Broilers, Food &
Environment
2013-2017

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Flynet designs A & D
most promising !

Objective

To develop flynets that, hinder entrance of flies carrying Campylobacter, do not compromise the ventilation, are easy to clean, fit the design of existing broiler houses – to a reasonable price with a life time of 5 years.

Materials & Methods

Step 1: Strength, UV resistance and air flow tests done at Technological Institute, Aarhus Denmark for different net material

Step 2: Design and how to fasten the nets to the houses were identified in a technical group consisting of, scientists working with Campylobacter, material, ventilation and building construction experts including representatives: from the two main ventilation companies in Denmark and broiler producers

Step 3: The field efficacy trial was conducted in 15 houses during summer 2016.

Results & Discussion

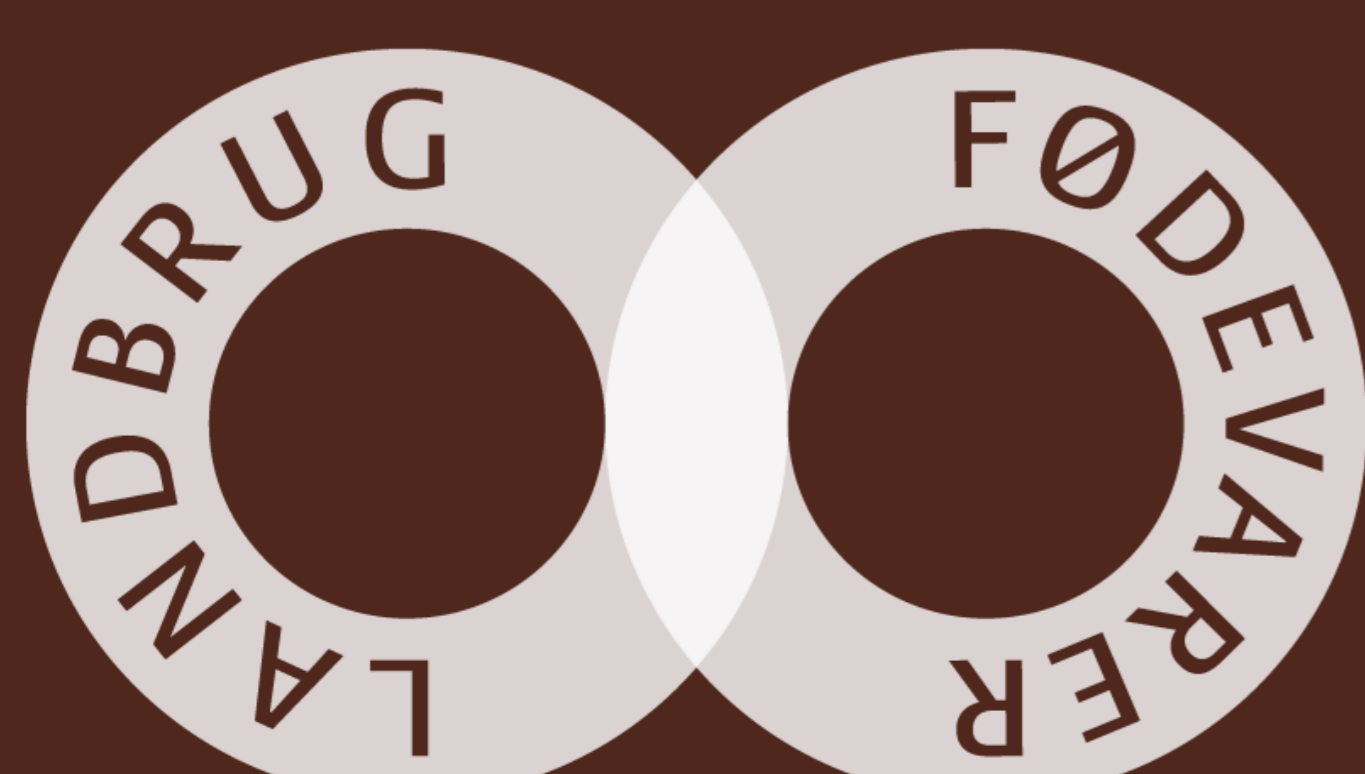
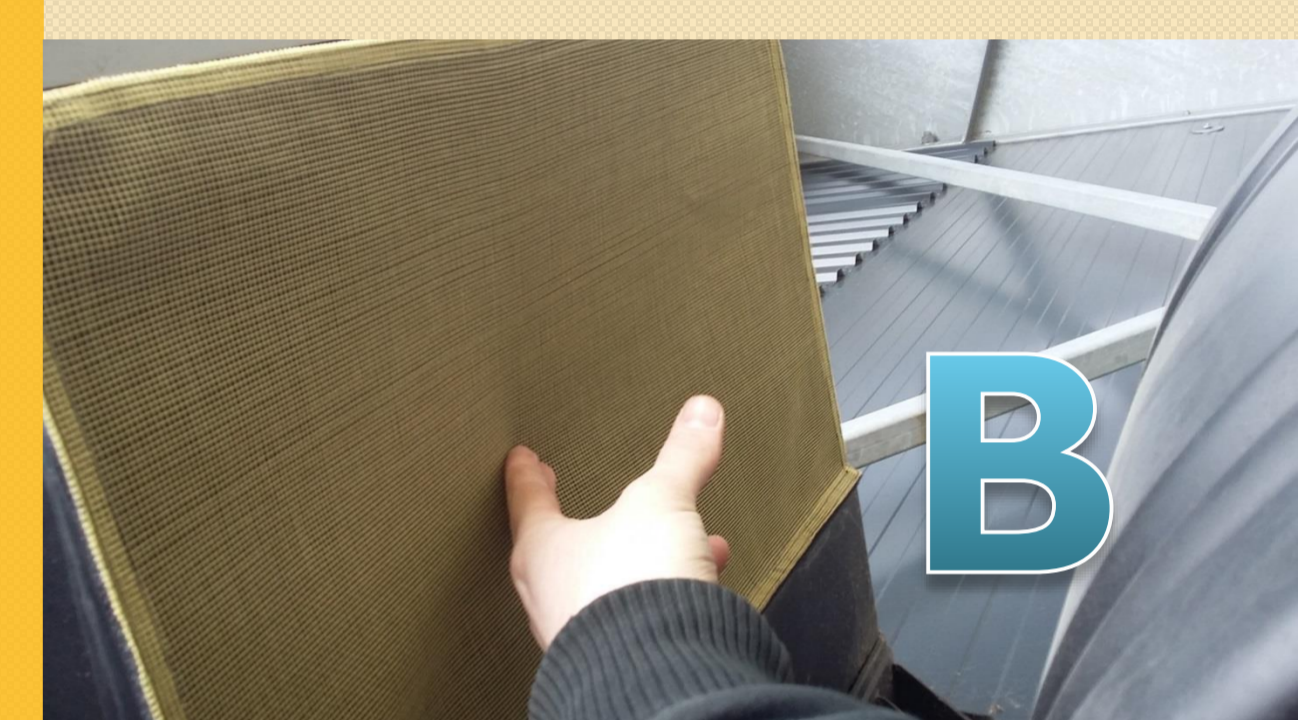
Step 1: Nets made of coated Kevlar with a lifetime of 5 years best (against glass fibre)

Step 2: On houses with ventilation openings in sidewalls the net was attached with velcro either on **A** light shade or **B & C** directly on openings – for **B & C**, extra ventilation capacity was added by installing an extra ventilator. Additionally a pressure measure device was installed – triggering an alarm if compromised ventilation. On houses with ventilation through chimneys, a “net-tent” was made **D**

Step 3: Challenges: 1) attachment of flynets on houses with glue in cold temperatures, 2) dandelions and other weed making a thick, not easy removable layer on the flynets 3) suboptimal coating of Kevlar net made “net-tents” break.

Conclusion & Perspectives so far

- Flynet designs, that can be offered to all kind of broiler houses in Denmark, were made
- Even with extra ventilation-capacity, the “direct on the ventilation opening” flynets **B & C** compromise ventilation and had to be cleaned too often (> 100 pieces to remove, clean and put up again!)
- Preliminary Campylobacter-results indicates that there are more sources for Campylobacter than flies on the trial farms
- Price, for all flynet design of Kevlar, per house min. ≈ 4,870 € max. ≈ 16,000 €.



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