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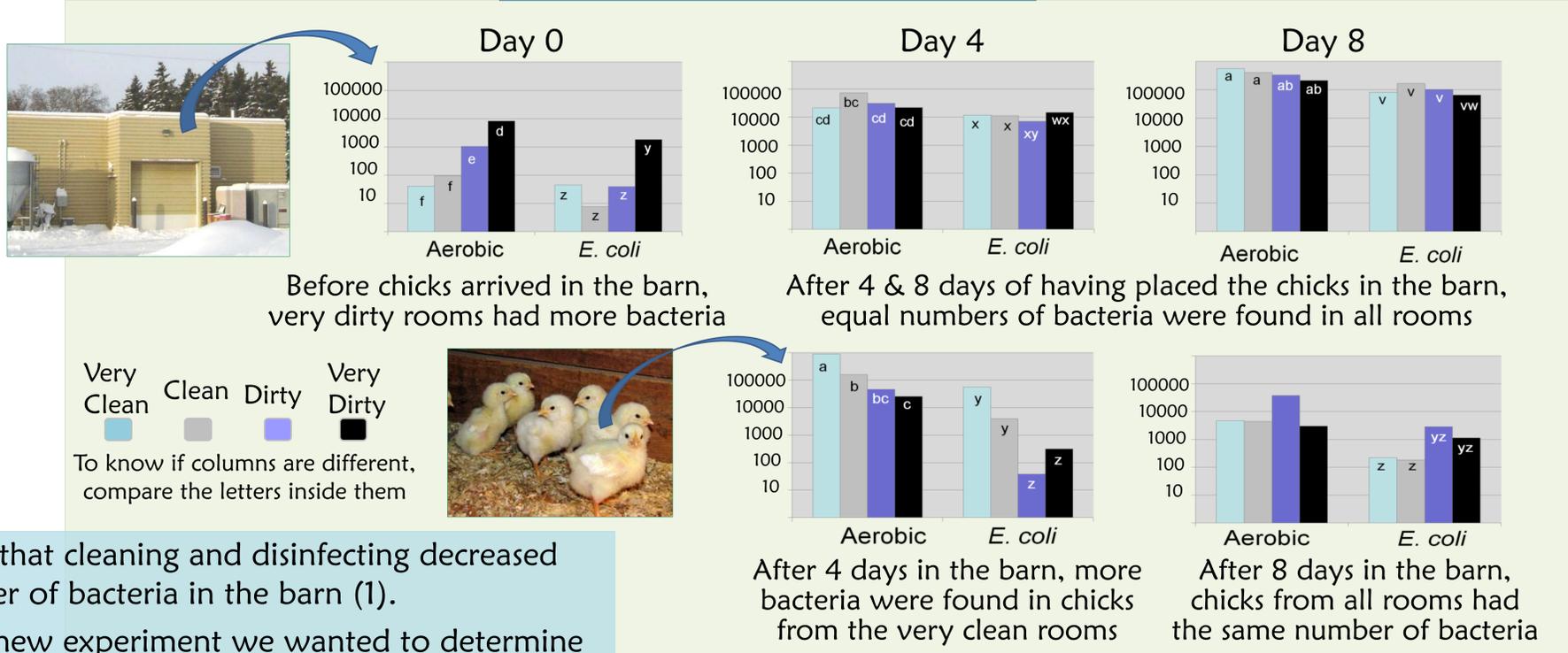
Broiler Chicks: A Little Dirt Won't Kill Ya'

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Did you know?

- ❖ In Canada, broiler chicken barns are thoroughly cleaned, disinfected, and prepared with new clean bedding before each new flock of chicks arrive.
- ❖ **WHY?** To reduce the number of microbes left in the barn by the previous flock and thus offer a clean environment to the new chicks.
- ❖ **WHY?** Some microbes can make chicks sick = a concern for the poultry industry. We must protect chick health.
- ❖ Other microbes can make people sick if they make it all the way from the barn to the kitchen table = a concern for everyone! We must protect food safety.

What did we find?



Summary of the experiment

One dirty barn, 8 rooms, 4 ways of cleaning and disinfecting



Broiler chicks placed in 2 "very clean", 2 "clean", 2 "dirty" & 2 "very dirty" rooms

Samples of the barn & chicks (organs & yolk sacs) taken on days 0, 4 & 8



Bacteria found in samples were counted & compared



- ❖ We knew that cleaning and disinfecting decreased the number of bacteria in the barn (1).
- ❖ With this new experiment we wanted to determine if cleaning and disinfection of the barn changed the number of bacteria found in chicks.

What does that mean?

- ❖ Cleaning and disinfecting = less bacteria in the barn before chicks arrive.
- ❖ When chicks are placed in the barn they start eating & defecating. Feces contain lots of bacteria (this is normal). This is why bacteria numbers increase in the barn.
- ❖ After 4 days, more bacteria were found in chicks from the very clean rooms → Is their immune system limited in decreasing bacteria numbers versus the immune system of chicks from dirtier rooms?
- ❖ Strachan (2) demonstrated that allergies and asthma are more common in children from developed countries (who live in cleaner environments) than in children from developing countries (who are exposed to more microbes). Exposure to microbes during childhood strengthens the immune system.
- ❖ More research is needed to determine if broiler chicks placed in barns with good microbes grow better than broiler chicks placed in very clean barns.

References: (1) Ward P., G. Fasenko, S. Gibson, L. McMullen. J. Appl. Poult. Res. 2006;15:326-332. (2) Strachan, D. BMJ. 1989;299:1259-1260.

