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Transmission and pathogenicity of *Gallibacterium anatis* and *Escherichia coli* in embryonated eggs.

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Highlights

- Avian associated *E. coli* are highly capable of trans-egg shell transmission
- *Gallibacterium anatis* can transmit through trans-egg shell transmission but at low frequency
- *Gallibacterium anatis* is highly embryo-toxic

Abstract

In laying hens, *Escherichia coli* (*E. coli*) and *Gallibacterium anatis* (*G. anatis*) are considered the two major pathogens causing reproductive tract disorders, either as single infections or as co-infections. Vertical transmission has been confirmed for *E. coli* but remains to be clearly