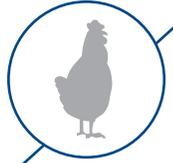


Research Notes

ARM & HAMMER



CERTILLUS use and the proportion of *E. coli* virulence associated genes in broilers.

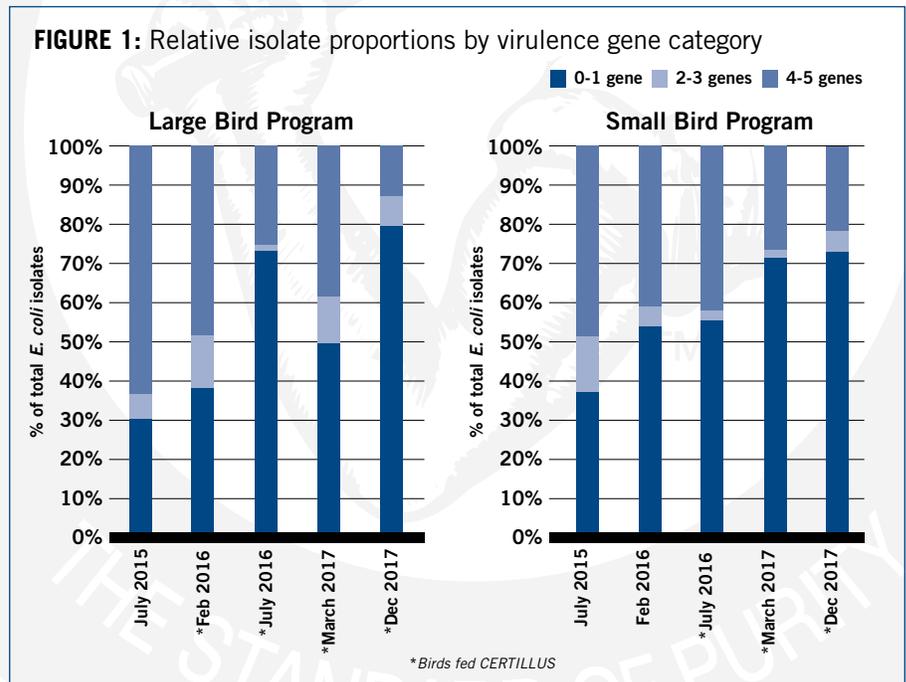
STUDY¹ OVERVIEW

As part of the Microbial Terroir™ program, an on-farm trial¹ assessed the shift in proportion of avian pathogenic *E. coli* (APEC) virulence genes over time in birds fed CERTILLUS™. To be considered APEC, an *E. coli* strain must possess at least 2 virulence associated genes (*hlyF*, *iss*, *ompT*, *iron* or *iutA*).

- Broiler gastrointestinal tracts (GITs) were collected during five individual sampling sessions over a 29-month period.
- Both a large bird and small bird production program were included in the analysis.
- Virulence associated genes in APEC strains isolated from GIT samples were measured and categories were recorded each time.
 - **Large Bird Program:** No CERTILLUS fed to birds in July 2015. Birds started on CERTILLUS in February 2016.
 - **Small bird program:** July 2015 and February 2016 served as baseline sampling. All other birds were fed CERTILLUS.

RESULTS

- The proportion of *E. coli* isolates possessing 0-1 virulence associated genes increased over time while being fed CERTILLUS.
- The proportion of APEC isolates possessing 4-5 virulence associated genes reduced over time in both the large and small bird programs when CERTILLUS was fed (Fig. 1).



¹ Hutchison E. "APEC gene prevalence." Internal ARM & HAMMER™ Review, data on file. 2018.

