

Disappearance of Blood *E. coli* in Turkeys



The presence of *E. coli* in poultry flocks is common and it can cause numerous challenges for birds including impaired animal performance and even mortality. *E. coli* also represents a food safety issue for humans.

Several studies have shown that feeding zinc from Availa®Zn zinc amino acid complex efficiently supports the immune system during various challenges.

The research study highlighted was completed at Colorado Quality Research (CQR) with 21-day-old Nicholas female turkeys.

- Each bird received 0.2 mL inoculum containing 1.0×10^6 cells of pathogenic field *E. coli* (septicemic ExPEC) into ulnaris vein
- Equal amounts of blood were drawn from brachial vein of each bird at 0, 20, 40, 60, 90, 120 and 180 minutes post-inoculation
- Performance results were recorded and *E. coli* colony forming units per mL (cfu/mL) of blood were determined



Figure 1: Effect of Availa®Zn^a on *E. coli* Disappearance in Turkey Blood

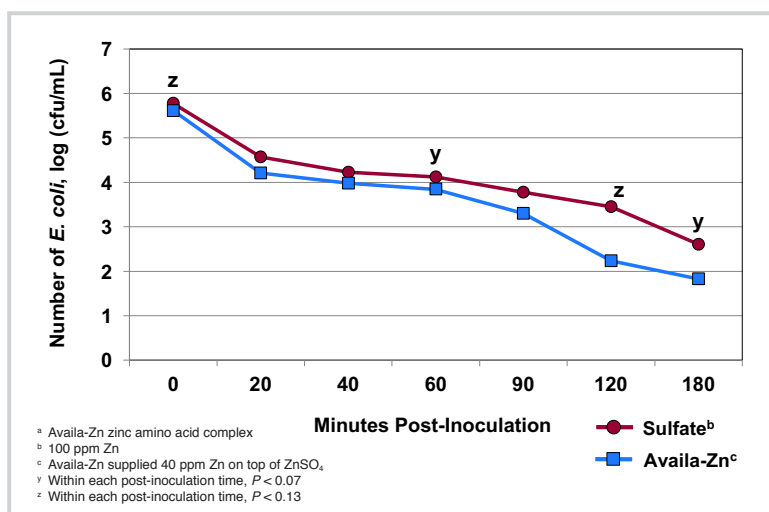


Table 1. Dietary Treatments Fed from 0 to 21 Days

Treatment	ZnSO ₄	Availa®Zn ^a	Challenge
Sulfate (ppm)	100	–	<i>E. coli</i>
Availa-Zn On Top (ppm)	100	40	<i>E. coli</i>

^a Availa-Zn zinc amino acid complex

Table 2. Effect of Availa-Zn^a on 21 Day Old Female Turkey Performance

Treatment	Body Weight	Adjusted Feed
	kg	Conversion
Sulfate ^b	0.463	1.643
Availa-Zn On Top ^c	0.481	1.608
<i>P</i> -value	0.659	-

^a Availa-Zn zinc amino acid complex

^b 100 ppm Zn

^c Availa-Zn supplied 40 ppm Zn on top of ZnSO₄

CONCLUSIONS

- Feeding zinc from Availa-Zn to female turkeys for 21 days prior to the *E. coli* challenge significantly decreased the amount of circulatory *E. coli* in the blood.
- Availa-Zn can be fed to poultry to help improve immune status and reduce the presence of bacteria.