

# THE EFFECTS OF AN ANTI-MYCOTOXIN AGENT CONTAINING ADSORBENT MATERIAL, CURCUMIN AND SILYMARIN EXTRACTS AND YEASTS ON THE GUT INTEGRITY OF BROILER CHICKENS CHALLENGED BY T-2 MYCOTOXIN

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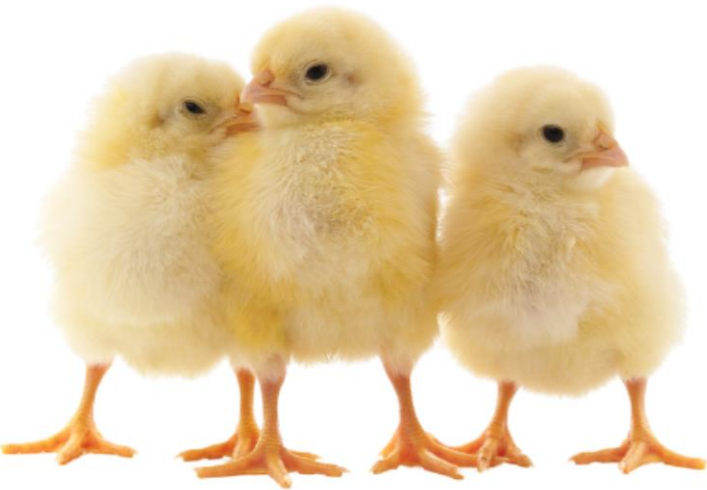
## INTRODUCTION

T-2 mycotoxin is mainly produced by *Fusarium* species and belongs to the trichothecenes family (Sokolovic et al., 2008). T-2 toxin is a common contaminant of cereals grains, specially of corn, wheat and oats that can be found in poultry feeds (Li et al., 2011; Riahi et al., 2021). In broiler chickens, the oral lesions are the most significant signs of T-2 toxicosis (Chi and Mirocha, 1977). Furthermore, previous authors observed intestinal morphometry changes such as shortened and atrophied villi, as well as deeper crypts (Ruan et al., 2019). Additionally, it seems that T-2 mycotoxin can develop interactions with intestinal microbiota (Zhan et al., 2022).

## OBJECTIVE

The present study was conducted to investigate the effects of an anti-mycotoxins agent on the gut health of broilers challenged by T-2 toxin at 2000 ppb. The anti-mycotoxins agent contained adsorbent material, curcumin and silymarin extracts and a combination of yeasts due to their effects on mitigating the mycotoxins and improving the intestinal barrier (Solovyov et al., 2020; Feshangchi et al., 2022; Kpomasse et al., 2023).

## MATERIALS AND METHODS



**360** chickens (Cobb 500)  
**3** experimental treatments  
Feed and water were administered *ad libitum*

### EXPERIMENTAL DESIGN

Starter phase (21 d)

	T2 toxin (ppb)	BIÕNTE® QUIMITOX® PLUS (BQ+)
CTR	-	-
T2	2000	-
T2 + BQ+	2000	✓

### Days of age

0 days

21 days



**Intestinal histomorphometry parameters:**

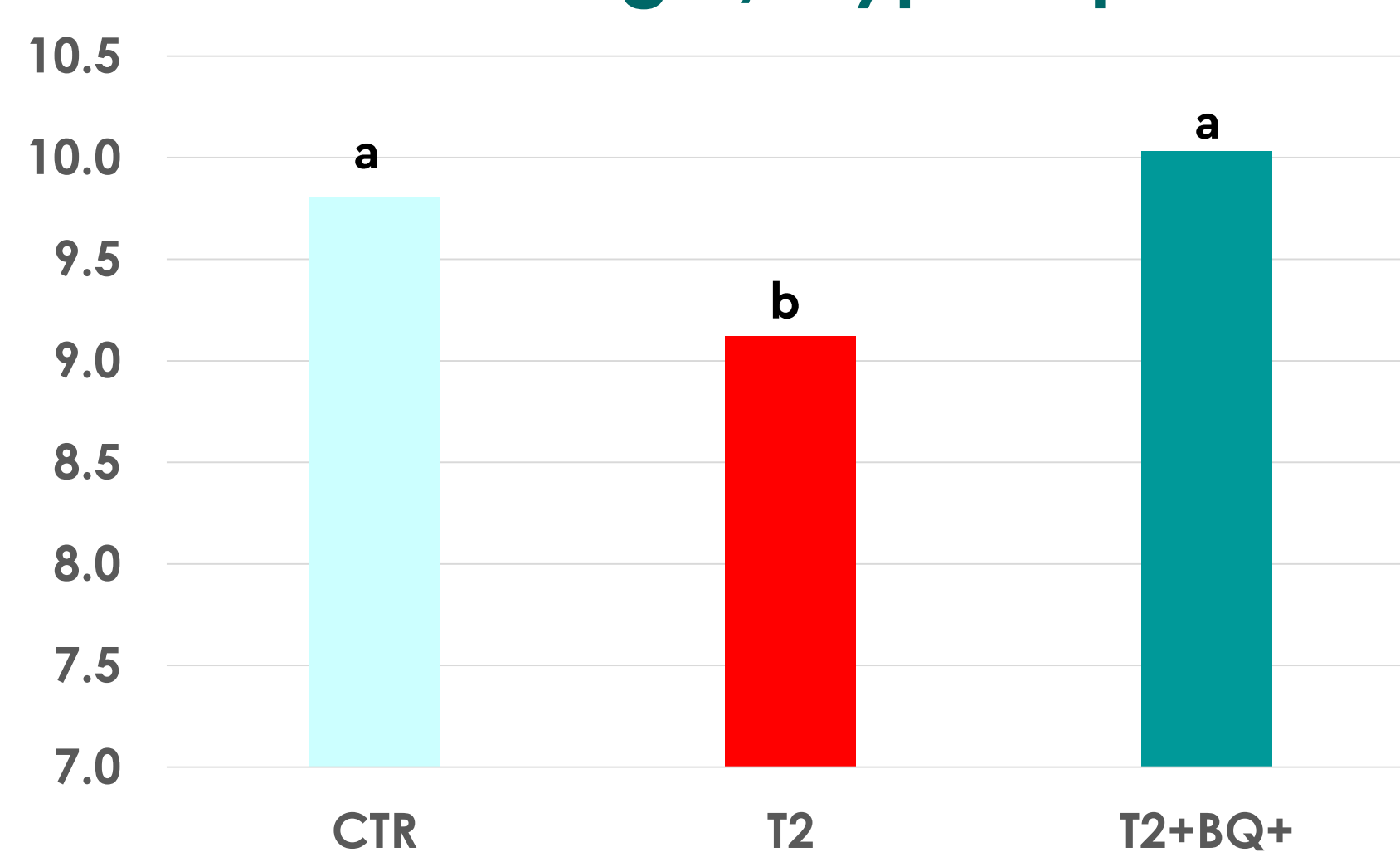
- ✓ Villus height/crypt depth ratio
- ✓ Absorption surface area



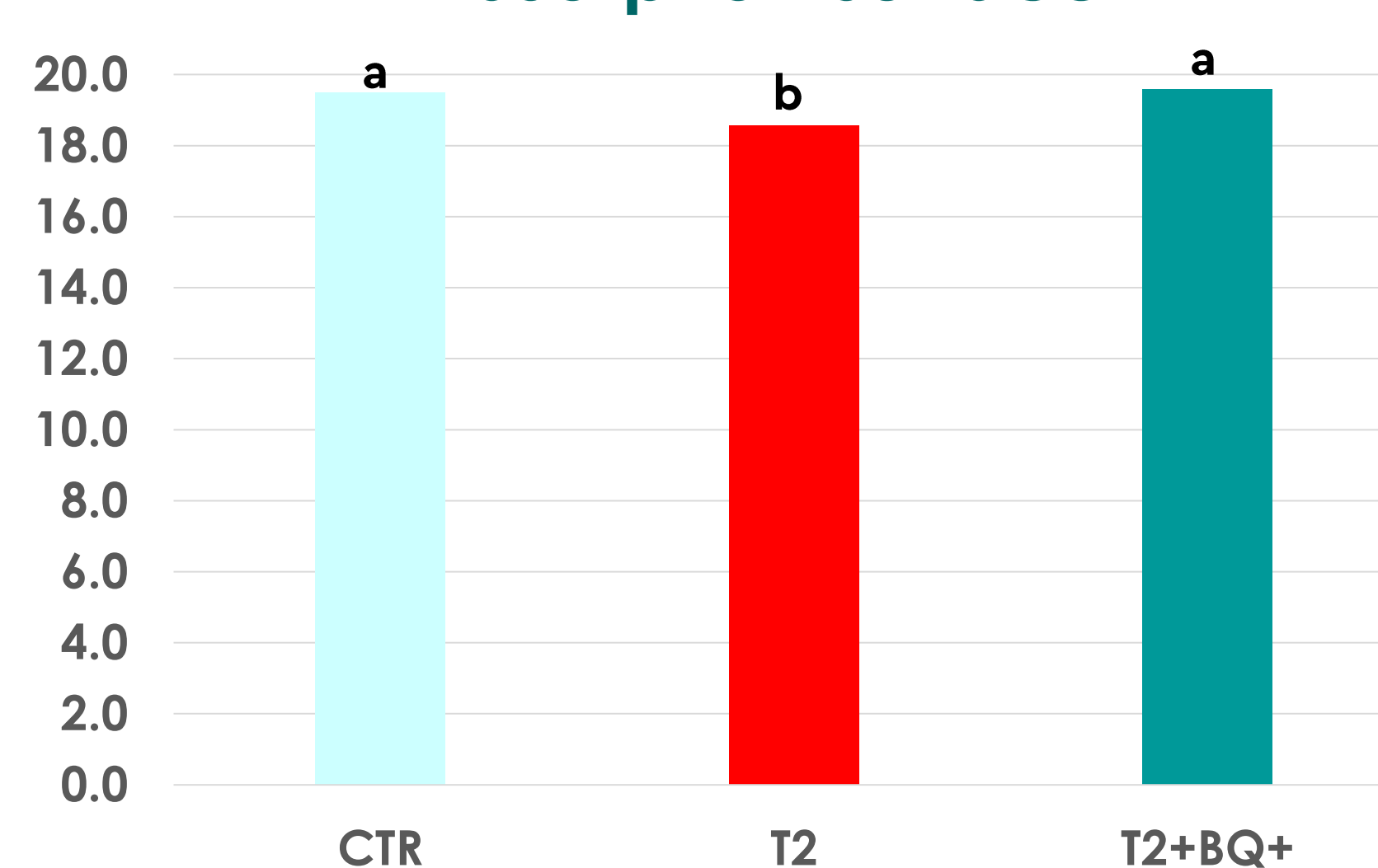
**Bacillus/Enterobacteria ratio**

## RESULTS

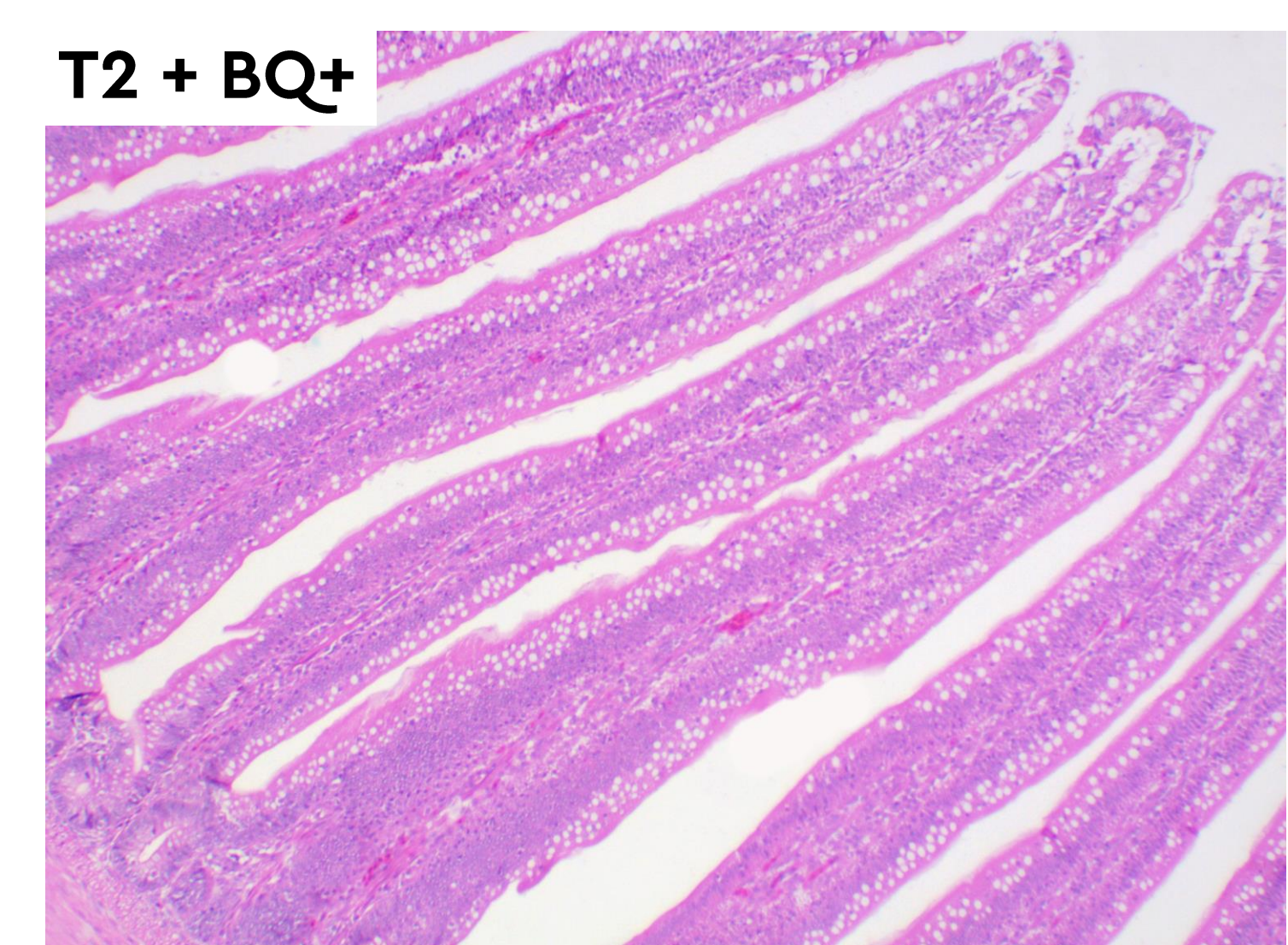
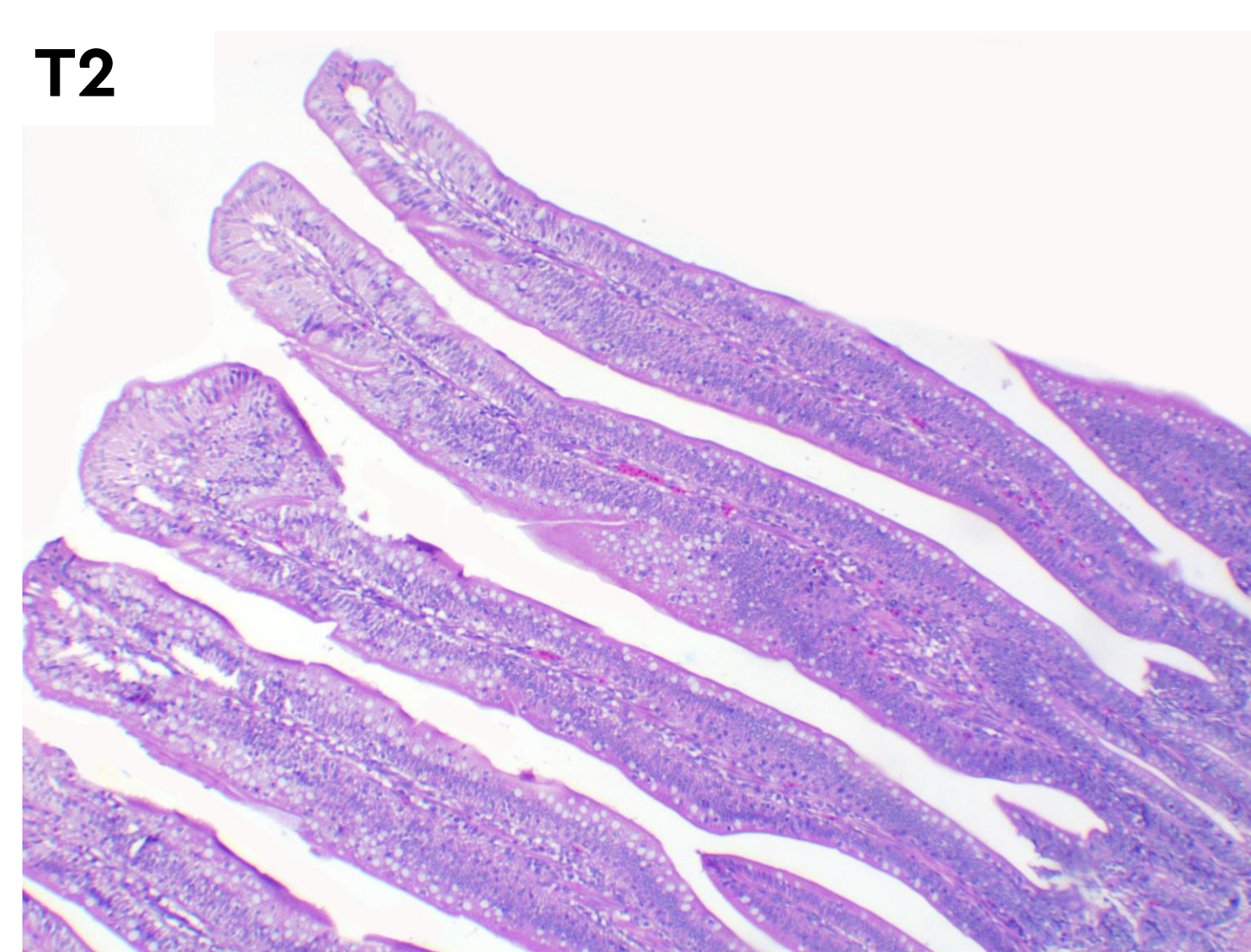
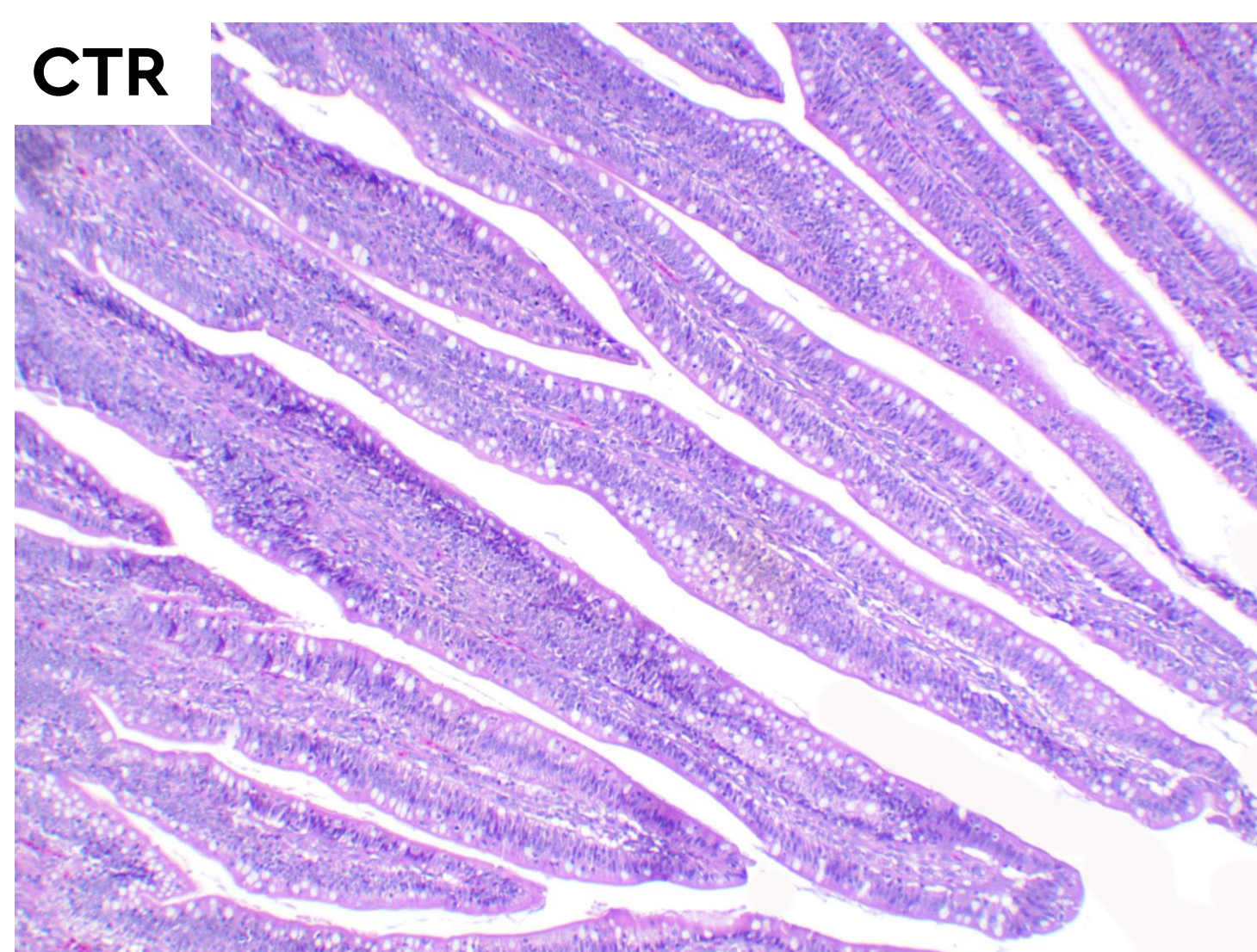
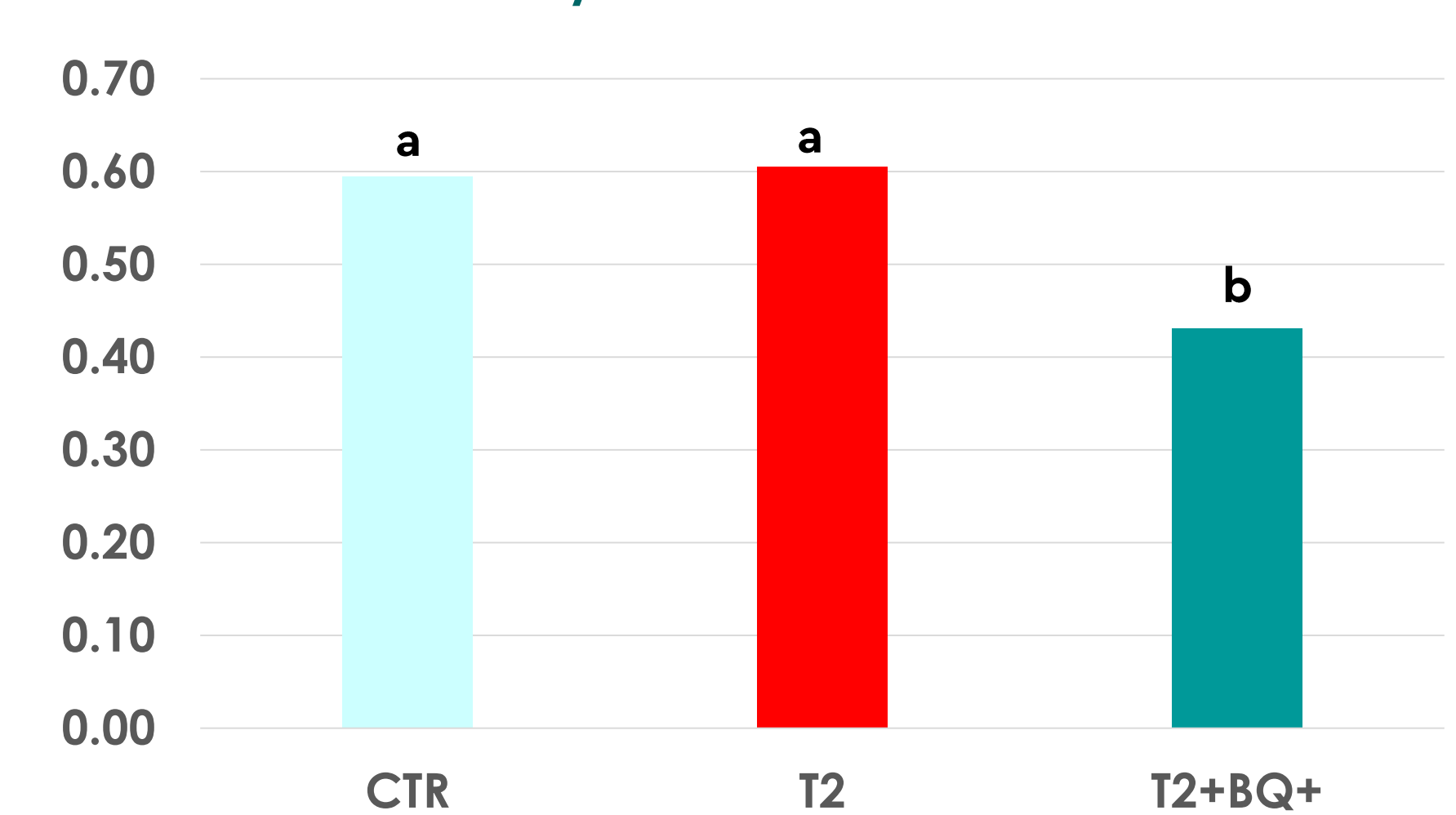
### Villus height/crypt depth



### Absorption surface



### Bacillus/Enterobacteria ratio



## CONCLUSIONS

The results suggest that the combination of adsorbent material, curcumin and silymarin extracts and yeasts beneficially impacts on the intestinal integrity of broiler chickens challenged by T-2 toxin.