

# EFFICACY OF A LIQUID SOLUTION CONTAINING GRAPE AND OLIVE EXTRACTS IN BROILER CHICKENS CHALLENGED BY AFLATOXIN B1, OCHRATOXIN A AND FUMONISINS: EFFECTS ON ANIMAL PERFORMANCE, BIOCHEMICAL PARAMETERS AND CARCASS TRAITS

Insaf Riahi<sup>1</sup>, Catalina Nicholls<sup>1</sup>, Raquel Codina<sup>1</sup>, Eva León<sup>1</sup>, Amrita K. Dhara<sup>2</sup>, Anirvid Sarkar<sup>2</sup>, Sayantani Sihi Arora<sup>2</sup>.

<sup>1</sup> Technical Department, BIÖNTE Nutrition S.L., Reus, Spain.

<sup>2</sup> Agrivet Research & Advisory P Ltd., Kolkata, India.

## INTRODUCTION

The presence of mycotoxins in feed adversely affects the health and performance of poultry productions. Broiler chickens exhibit a remarkable sensitivity towards aflatoxin B1 (AFB1), ochratoxin A (OTA) and fumonisins (FBs), which cause deleterious effects in the gastrointestinal tract, liver and kidneys. Mycotoxins are extensively prevalent; therefore, effective solutions must be found to counteract their detrimental effects (Ochieng et al., 2021; Okasha et al., 2024). Natural antioxidants, such as olive and grape extracts, have shown the capacity to mitigate these mycotoxin effects (Erinle et al., 2022; Bilal et al., 2021).

## OBJECTIVE

The aim of the present study is to evaluate the efficacy of a liquid anti-mycotoxin solution (LS), formulated with grape and olive extracts, administered through drinking water in mitigating the negative effects of mycotoxin exposure on performance, biochemical parameters and carcass traits in broiler chickens exposed to a natural multi-mycotoxin contaminated diet.

## MATERIALS AND METHODS

### EXPERIMENTAL DESIGN

144 ♂ broiler chicks (Ross 308) 1 day of life  
LS dose: 2L/1000L

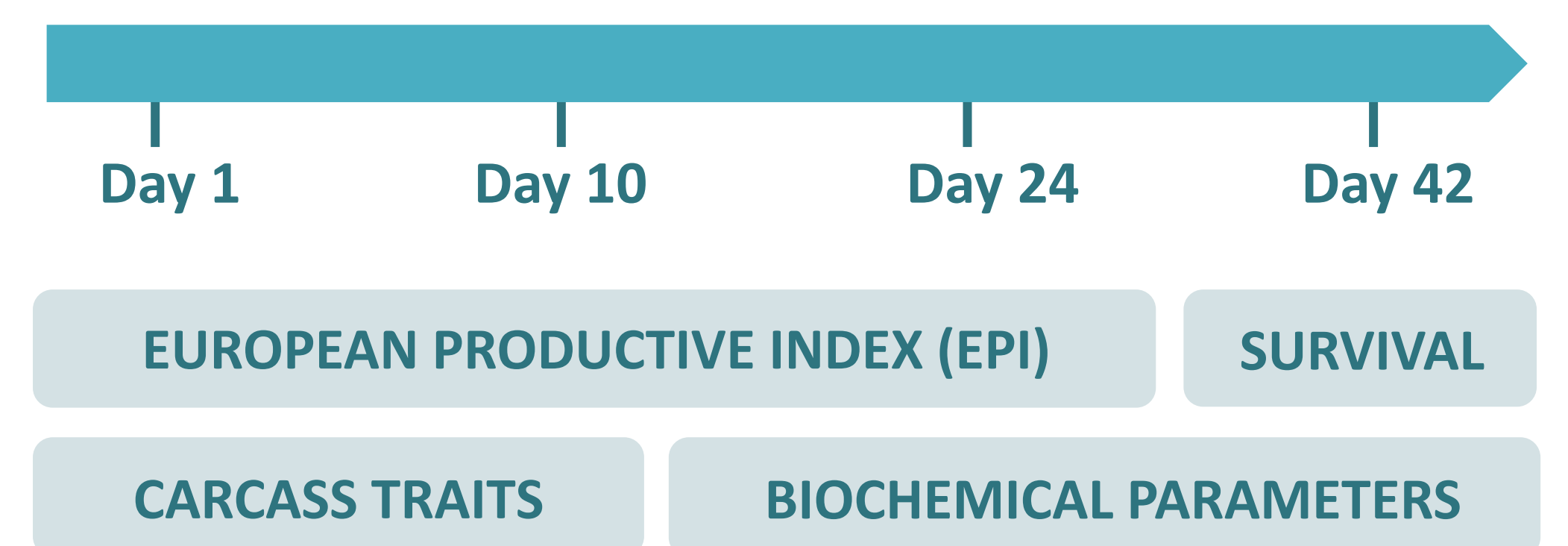
Duration: 42 days

- 2 experimental groups:
  - ✓ Experimental diet (ED)
  - ✓ ED + Liquid solution (LS)
- 6 replicates/12 broilers

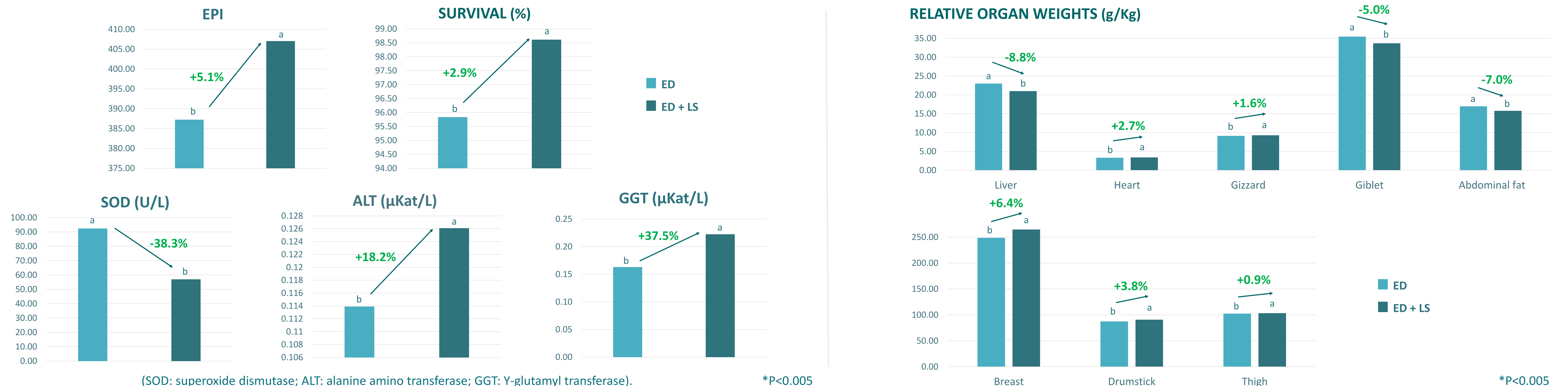
### EXPERIMENTAL DIET (ppb)

	Aflatoxin B1	Ochratoxin A	Fumonisin
Starter diet (1-10 d)	2.3	6.2	716.6
Grower diet (11-24 d)	3.2	12.2	1000.2
Finisher diet (25-42 d)	4.2	10.2	850.3

### CONTROLS AND SAMPLING



## RESULTS AND DISCUSSION



## CONCLUSIONS

The results suggest that the liquid anti-mycotoxin solution administered through drinking water that contains phytochemicals from grape and olive extracts, beneficially impacted on the performance, biochemical parameters and carcass traits in broiler chickens challenged by a natural multi-mycotoxin contaminated diet.