



BENEFITS OF PREBIOTIC ASSOCIATED WITH ORGANIC ACIDS ON THE QUALITY PARAMETERS OF COMMERCIAL LAYING EGGS



Luiz Eduardo Takano¹; Fabrizio Matté¹; Alceu Kazuo Hirata¹; Patrick Iury Roieski¹; Humberto Cury Schiffer¹; Bruno Milo Milagres¹; Felipe Adorno Chiarelli¹; Mauro Renan Felin¹; Tiago Urbano¹, Ana Angelita Sampaio Baptista²

¹Vetanco do Brasil Import and Export, Chapecó, Brazil

²Laboratory of Avian Medicine, State University of Londrina, Londrina, Brazil

Objective

The aim of the study was to evaluate the quality parameters of eggs produced by laying hens fed diets containing 1000 ppm of a product (Uniwall MOS[®] 25) composed of prebiotic associated with organic acids at different periods after feeding.

Materials and Methods

The trial was carried out at a commercial egg farm located in São Paulo State. One hundred 40th week old laying hens were distributed in a completely randomized design with five treatments and seven replications of 10 birds each (metal cages). The treatments consisted of five different egg collection periods: 1st – 15 days before treatment; 2nd – 1st day of treatment; 3rd – 15 days of treatment; 4th - 30 days of treatment and 5th – 45 of treatment. On each collection day, 30 eggs per treatment were used for analysis of Egg Weight, Shell Thickness, Haugh Unit and Yolk Index (Digital Egg Tester Mod. DET6500 - Nabel Co, Ltd.). A Shapiro-Wilk normality test and a Bartlett test of homogeneity of variances were performed before ANOVA. In cases of significant differences, the means were submitted to a polynomial regression.

Results

There was no significant difference between the periods for egg weight ($P=0.4553$), but an increasing linear effect could be observed for shell thickness ($P=0.0047$), Haugh Unit ($P=0.0001$) and yolk index ($P=0.0047$), where the longer the time of prebiotic consumption, the better the results regarding egg quality.

Figure 1. Mean shell thickness (mm) obtained for the different egg analysis period.

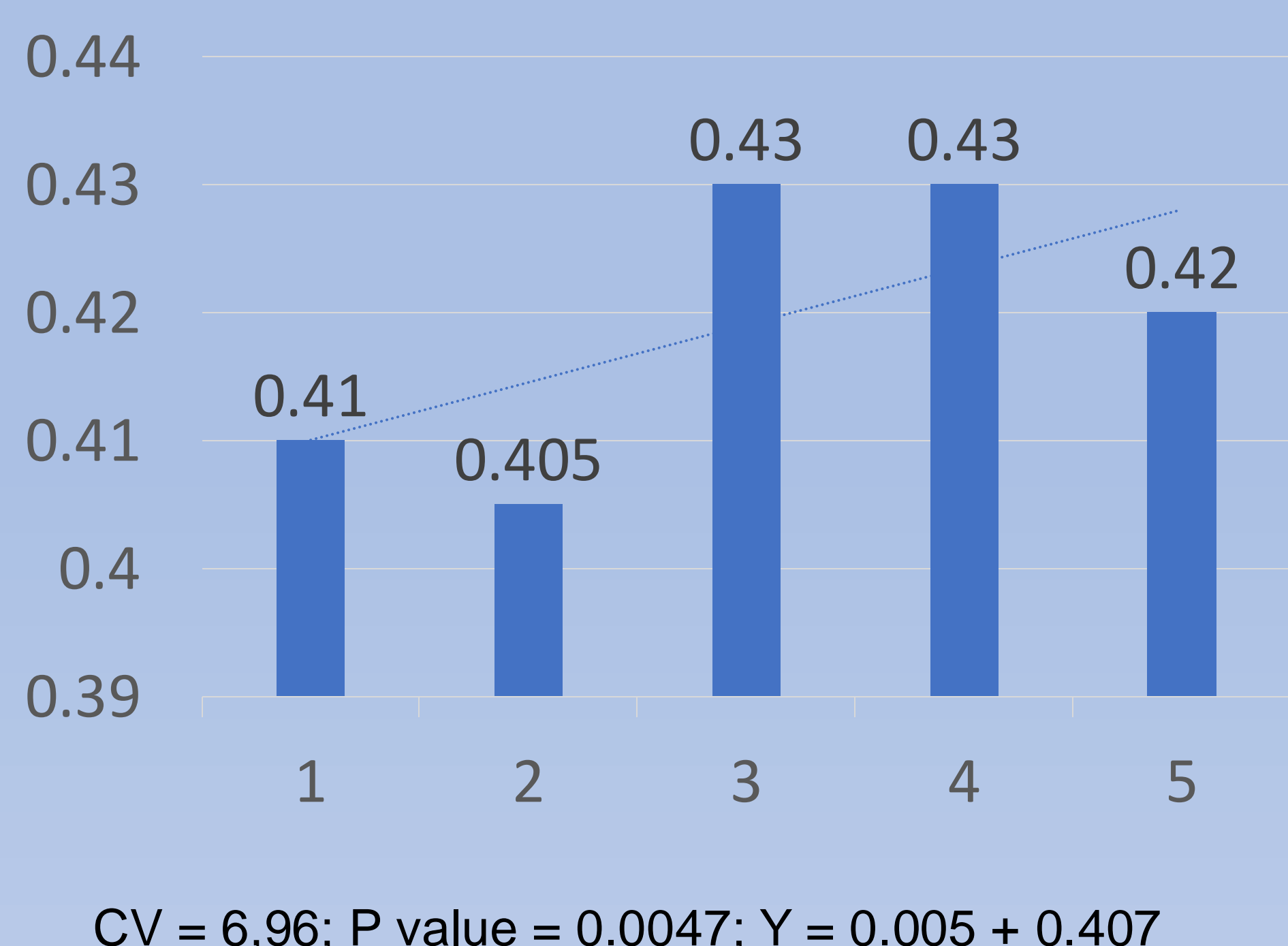


Figure 2. Mean Haugh Unit values obtained for the different egg analysis period.

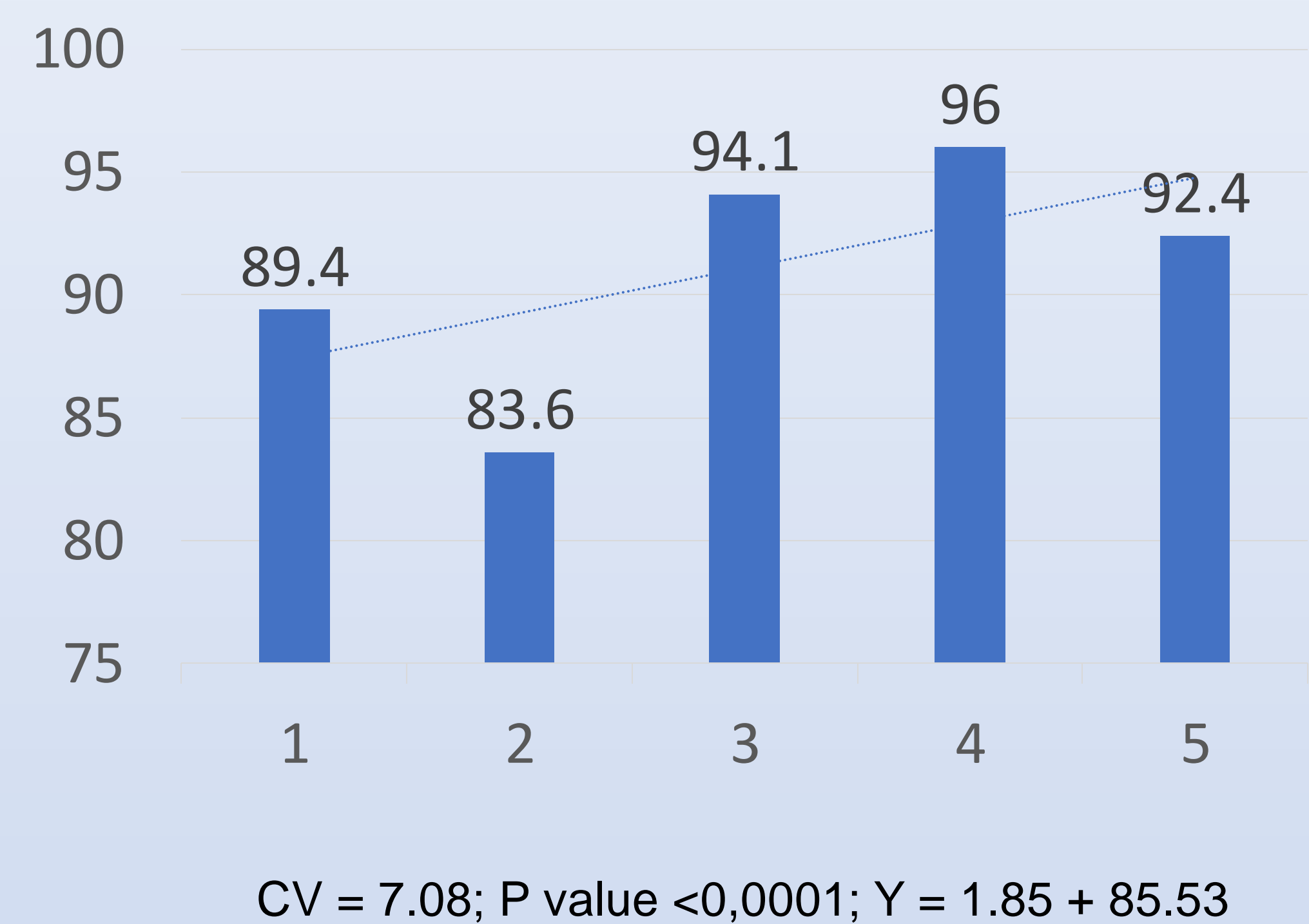
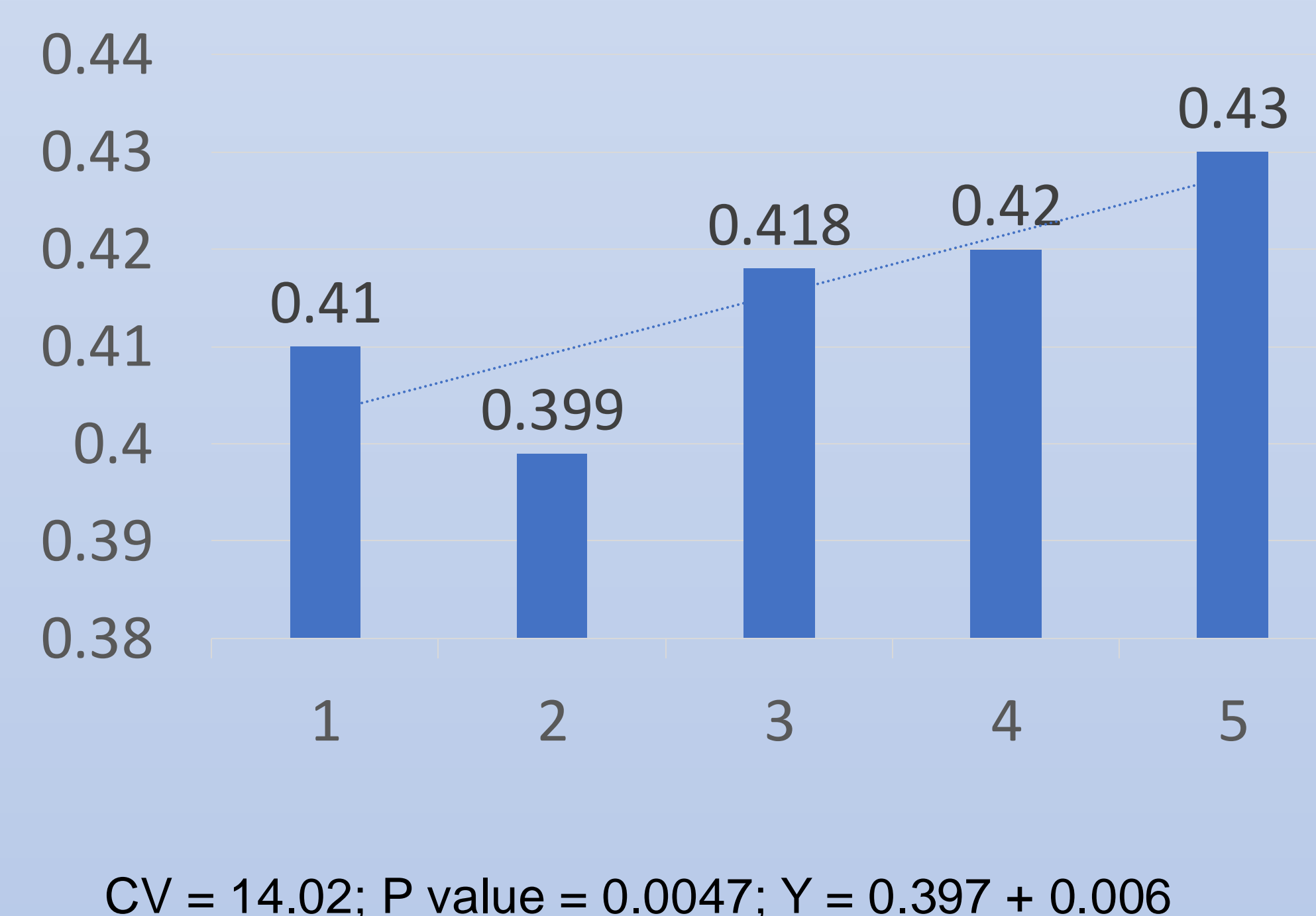


Figure 3. Mean Yolk Index values obtained for the different egg analysis period.



Conclusion

The use of the prebiotic UNIWALL[®] MOS 25 in the diet of laying hens promoted improvement of internal and external quality parameters of the eggs, ensuring a quality product to the final consumer.

Keywords: egg tester, prebiotics, organic acids, egg quality, gut health