



COMPARATIVE EFFECT OF LAYING HENS EGG QUALITY FED WITH *CASTANEA SATIVA* IN LOW-PROTEIN DIET

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• Introduction

Supplementing laying hens' diets with *Castanea sativa*, as source of tannins, while lowering protein levels, can improve certain egg quality characteristics such as shell strength and yolk color, potentially due to the antioxidant properties of tannins.



• Material and method

- 90 Lohmann Brown laying hens;
- aged 51 weeks assigned to 3 groups;
- 6-week experimental period;
- analyses of egg quality parameters;
- antioxidant potential of *Castanea sativa*;
- eggs shelf-life evaluation during storage.

• Results and discussions

LPC group, maintained highest egg weight and its components during storage, compared with CON and LPL groups.

CON

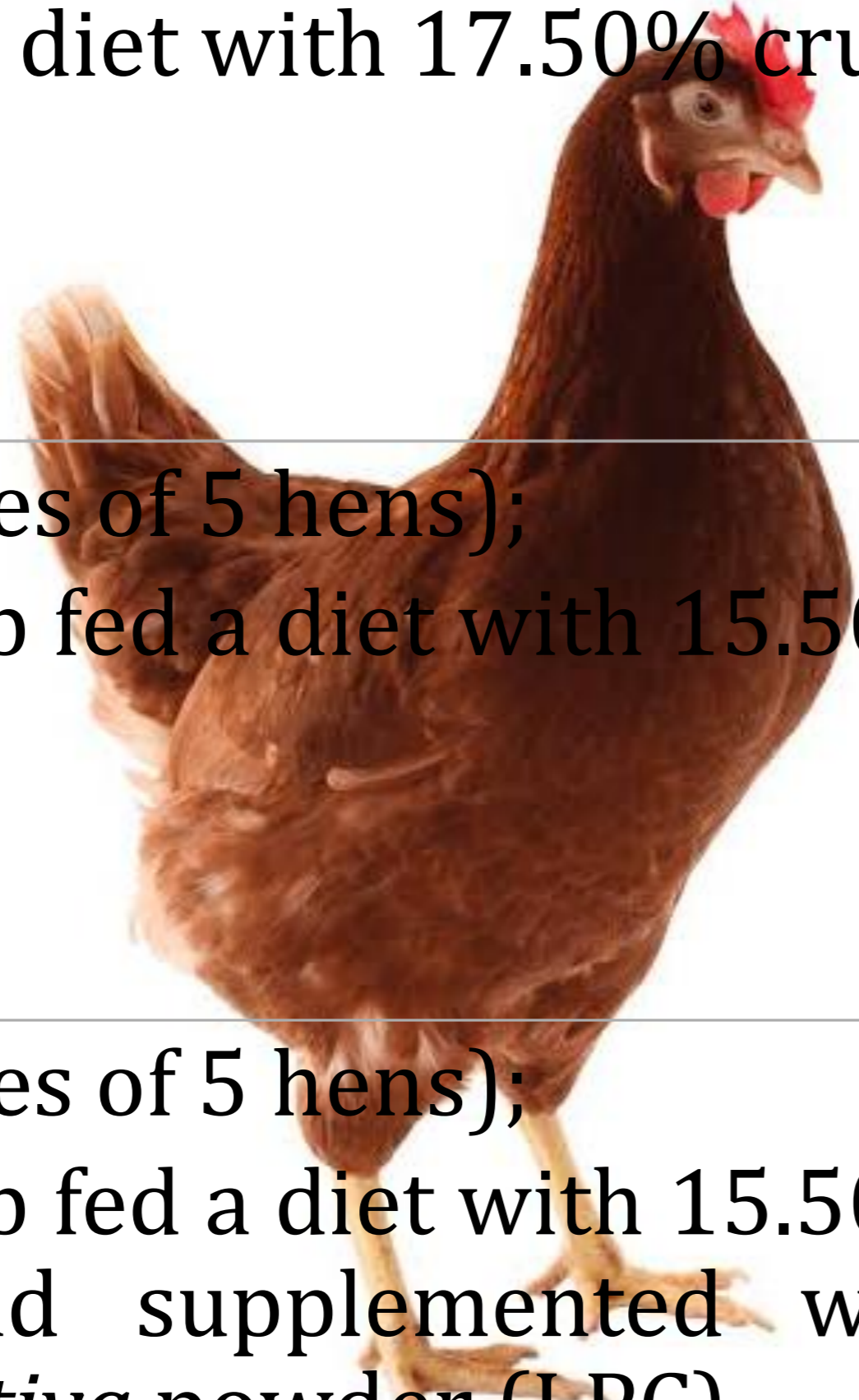
- 30 hens (6 replicates of 5 hens);
- control group fed a diet with 17.50% crude protein (CON)

LPL

- 30 hens (6 replicates of 5 hens);
- experimental group fed a diet with 15.50% (LPL)

LPC

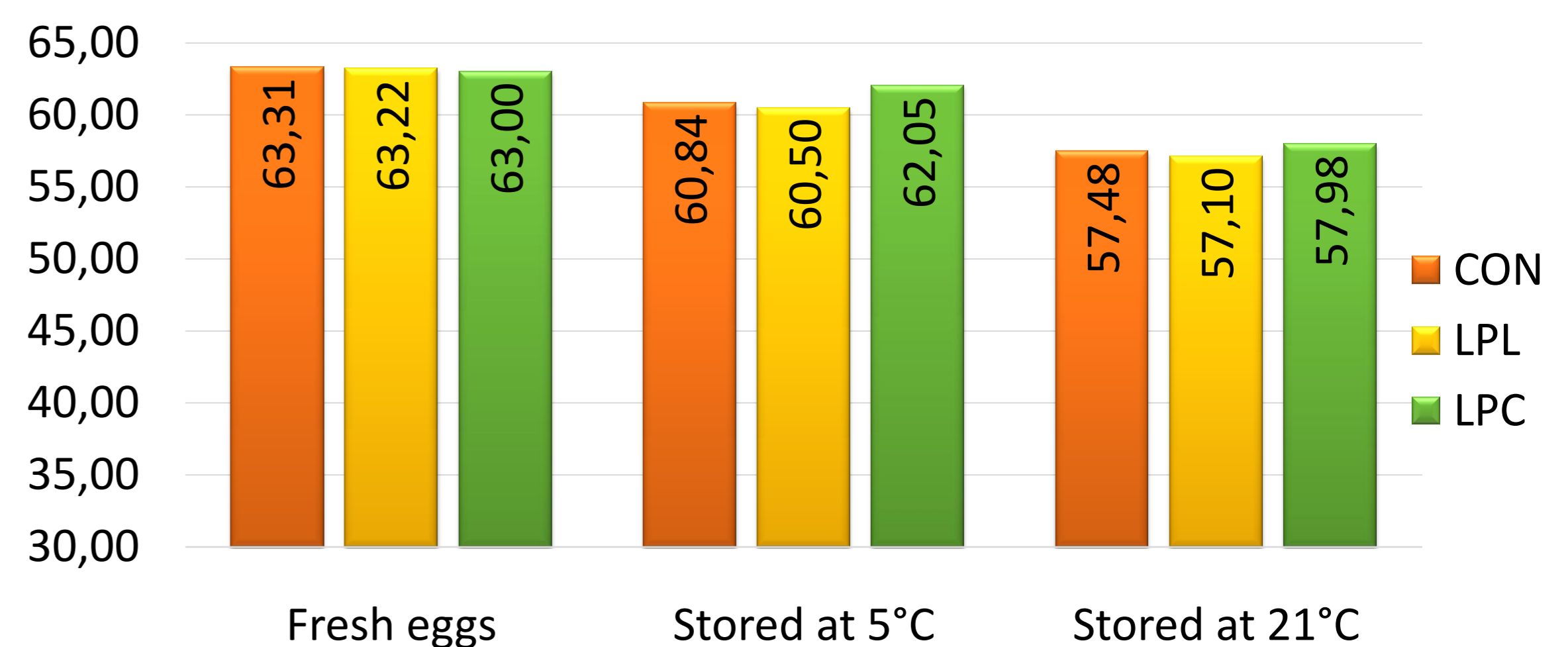
- 30 hens (6 replicates of 5 hens);
- experimental group fed a diet with 15.50% crude protein and supplemented with 0.50% *Castanea sativa* powder (LPC)



• Conclusions

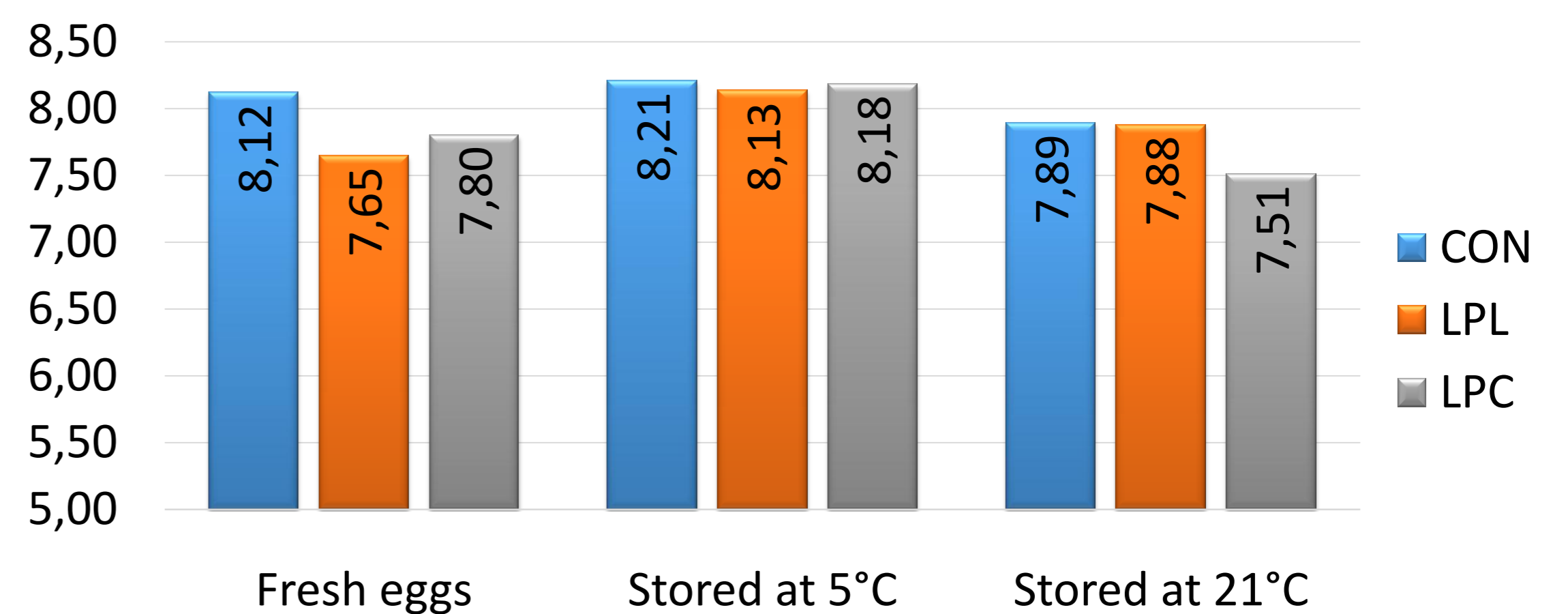
Castanea sativa powder, used in laying hens diets with lower protein levels (15.50%), will not affect the eggs nutritional quality in terms of physical and primary chemical composition.

Egg weight, g



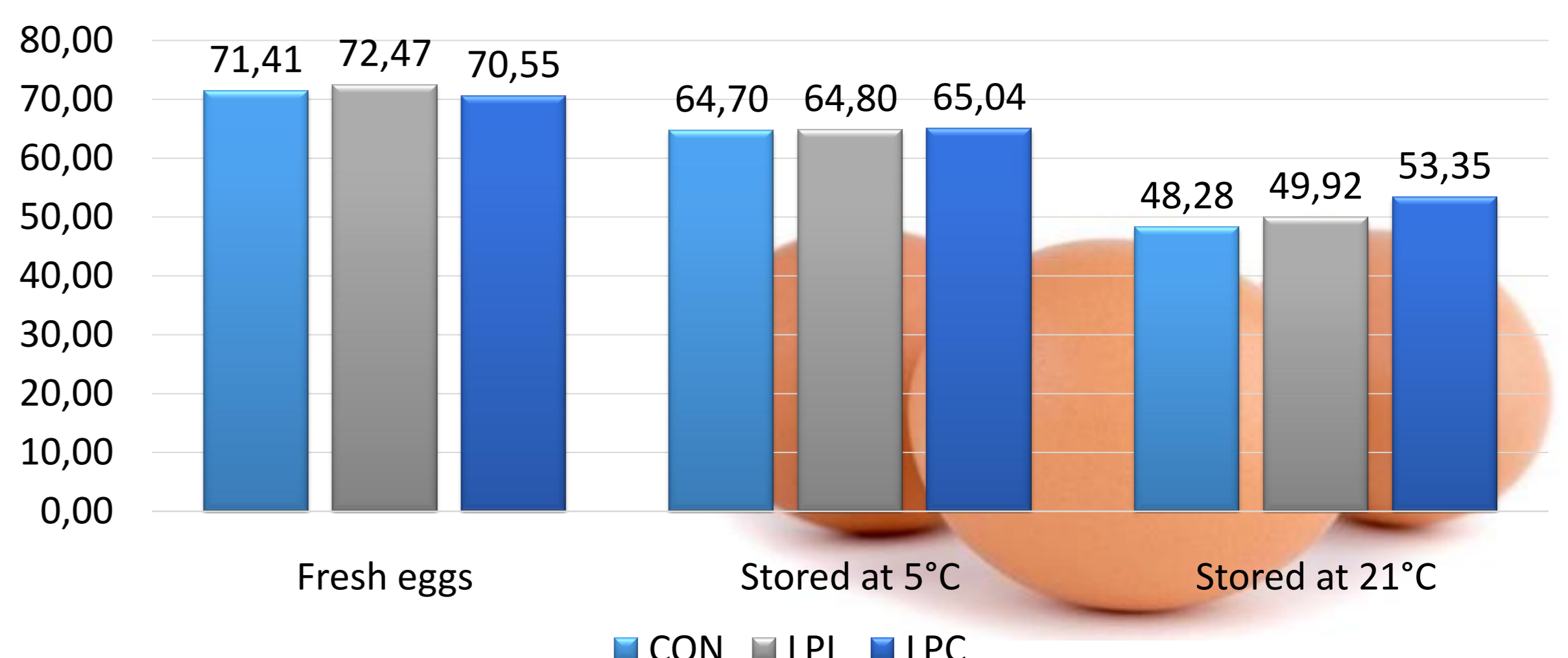
Albumen quality was improved during 28 days of storage at refrigerator and room temperature in eggs of hens fed with lower protein diets, especially LPC group

Albumen pH



Castanea sativa as feed additive maintained the highest HU in eggs during 28 days of storage, showing its antioxidant potential in maintaining higher egg freshness

Hugh Unit



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