



Egg production traits during ageing in the chicken Italian breed *Mericanel della Brianza*



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INTRODUCTION

Local chicken breeds are a vital source of gene reservoir and their conservation has a technical role for the future advancement of the productive system, as well as a social cultural role.

AIM

The aim of this study was to record the oviposition performance during ageing in the *Mericanel della Brianza* (MB) bantam breed population conserved at the Poultry Centre for the Conservation of Local Genetic Resources, University of Milan (Lodi, Italy).

MATERIALS and METHODS

- A total of 61 chicken breeders were selected and organized into 7 families (A-G) kept in floor pens in a controlled environment.
- Birds received a photoperiod of 15L:9D and were fed ad libitum a commercial breeder diet.
- Egg production (EP) and egg weight (EW) were recorded daily per family constantly from sexual maturity for two consecutive years.
- Weekly EP (%) and total egg production/hen/year (TEP/H) were calculated.
- Analysis of variance was performed on EW data considering laying cycle (LC), family lines (FL), month (Mo) and the interaction LC*Mo as sources of variation.



Mericanel della Brianza



Mericanel della Brianza rooster

RESULTS and DISCUSSION

- Sexual maturity occurred at 24 weeks of age.
- In the first year (1Y) of age, the oviposition cycle showed a standard trend (figure 1), while in the second year (2Y) of age, different laying cycle peaks occurred (figure 2).
- EP was limited and 36% was the peak reached in 1Y (figure 1) and 25% in 2Y (figure 2).
- TEP/H was 72 eggs in 1Y and 50 eggs in 2Y.
- Analysis of variance showed that EW was significantly influenced by all the various factors considered: LC ($P<0.0001$), Mo ($P<0.0001$), FL ($P<0.0001$) and interaction LC*Mo ($P<0.0001$).
- The average EW was 34.5 g in 1Y and it significantly increased to 37 g in 2Y. EW increased progressively during the laying cycle in 1Y (figure 3), while it was constant in 2Y (figure 4).
- Mean EW values showed significant differences between FL. The lowest mean EW (33.5 g) was measured in FL-F and the highest (36.9 g) in FL-G

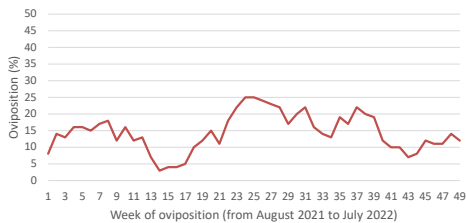


Fig. 1. MB oviposition cycle in the first year of age

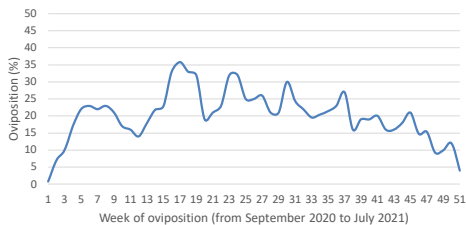


Fig. 2. MB oviposition cycle in the second year of age

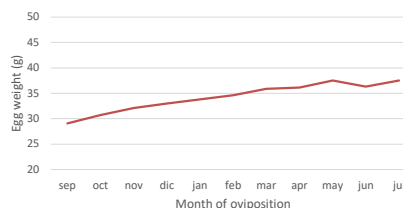


Fig. 3. Egg weight trend during the laying cycle in the first year

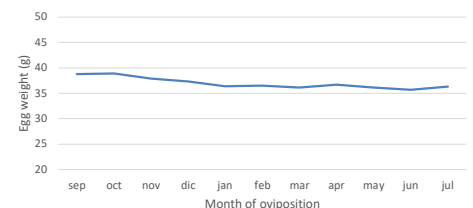


Fig. 4. Egg weight trend during the laying cycle in the second year

CONCLUSION

For the first time, the age at sexual maturity was accurately recorded and the oviposition rate studied for two consecutive years in MB hens housed in a controlled environment. The results are useful to improve the breeding management of MB laying hens in order to identify the optimal combination between age at the onset of sexual maturity and egg production.

Acknowledgements

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