

Performance and meat quality of light lambs fed concentrates with different sources of magnesium



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Magnesium (Mg) plays an essential role in a wide variety of fundamental cellular reactions. Lamb's concentrates are usually supplemented with minerals but some supplements are relatively poorly absorbed.

In lambs, a deficiency in Mg may be acute with a stiff gait and tetany, or chronic with poor feed intake and illthrift

Objective: does the source of magnesium affect the performance and meat quality of light lambs?

Material and Methods

56 Rasa Aragonesa weaned lambs (LW=12.6 kg; age= 41 d)

Feeding: Concentrate (87.8% DM, 17.7% CP, 2.7% EE) until 22 kg LW with:

Source of magnesium	
C	100% caustic MgO
Mg2	caustic semicalcined MgO and MgCO ₃
Mg3	caustic semicalcined MgO and calcined dolomite
Mg4	caustic semicalcined MgO and Mg(OH) ₂

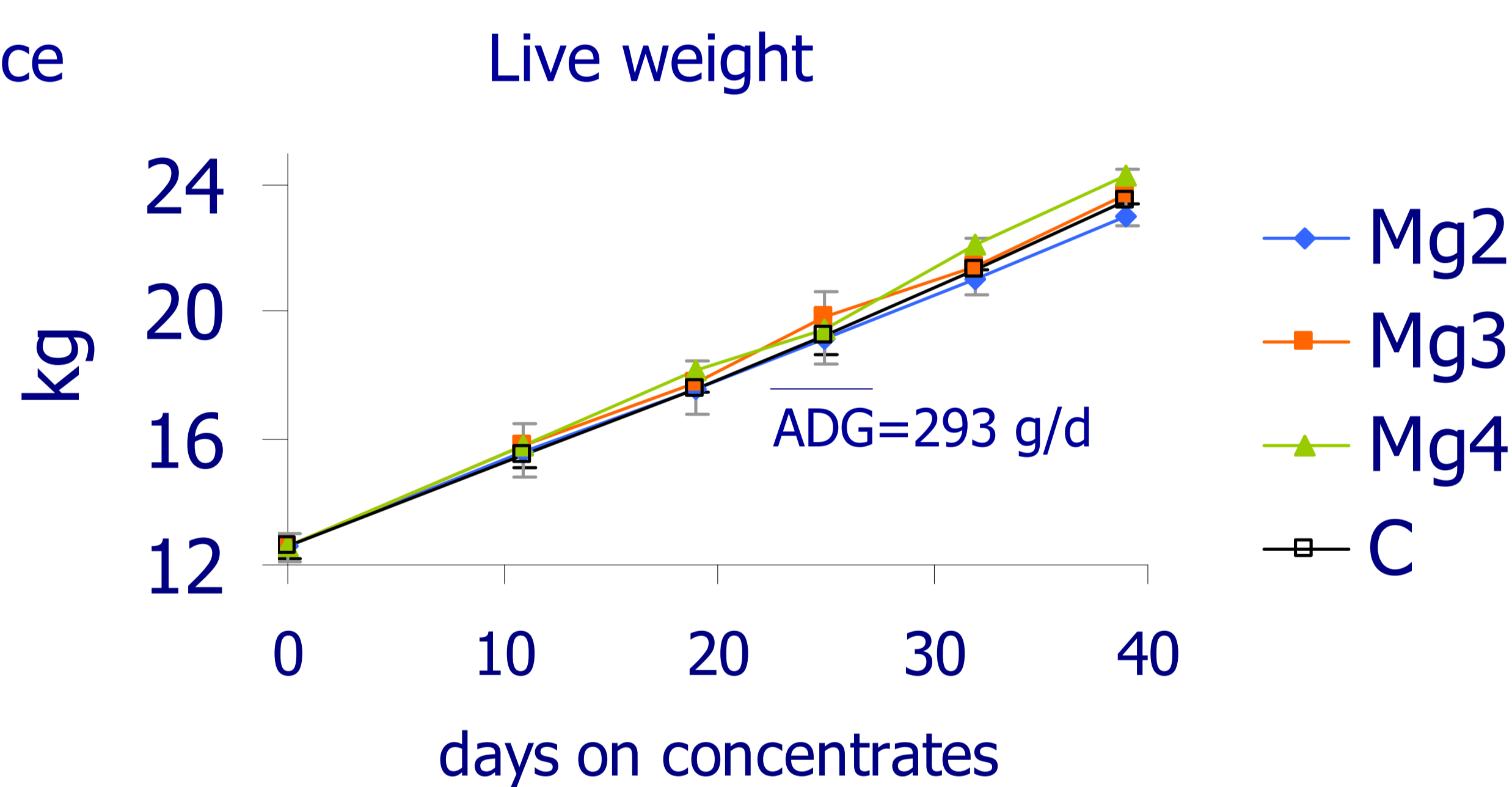
Measurements:

- Weight
- Concentrate intake
- Serum mineral concentrations
- Carcass characteristics: weight, subcutaneous fat colour
- Meat quality: pH, colour, lipid oxidation

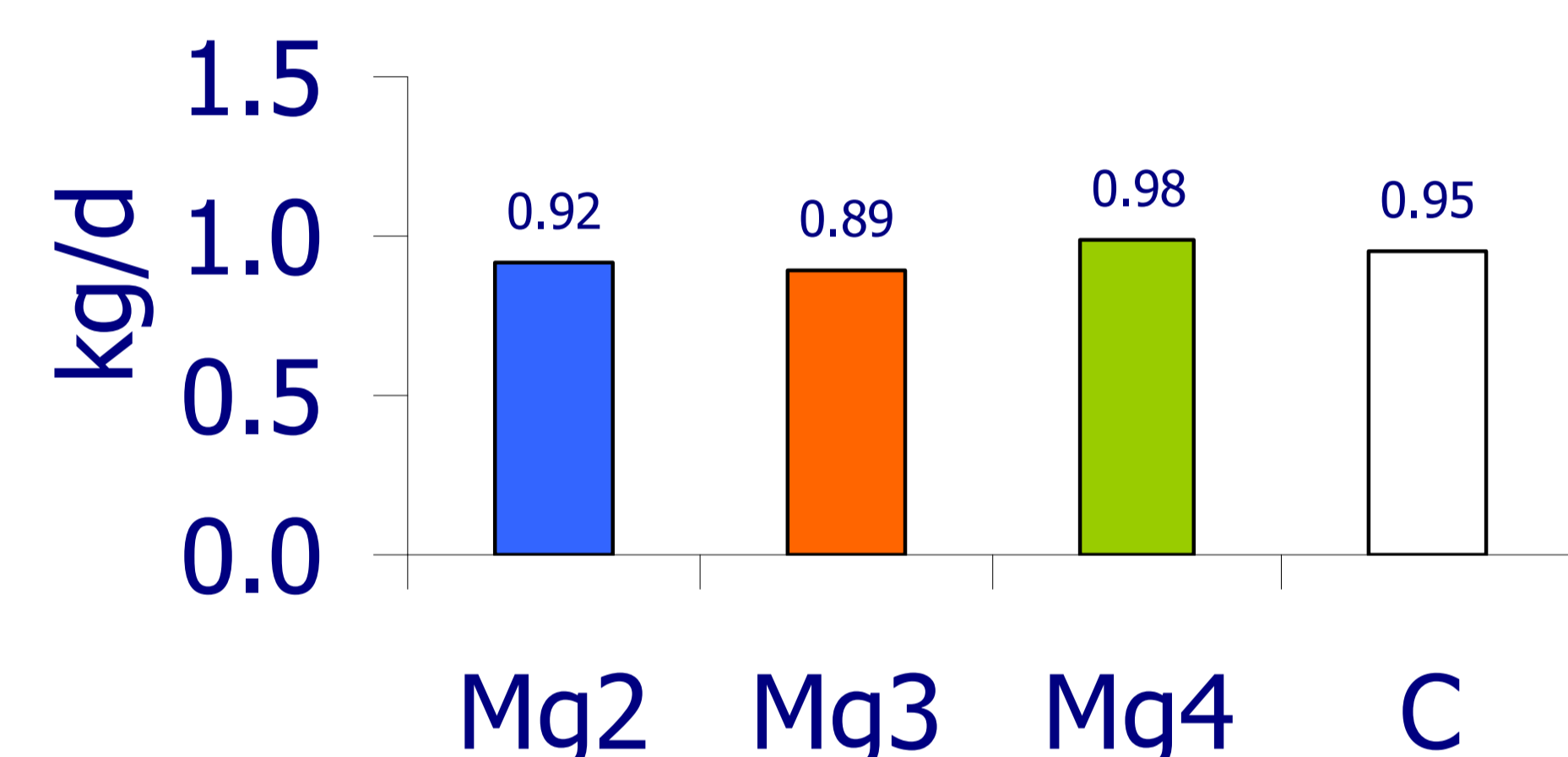


Results

Performance



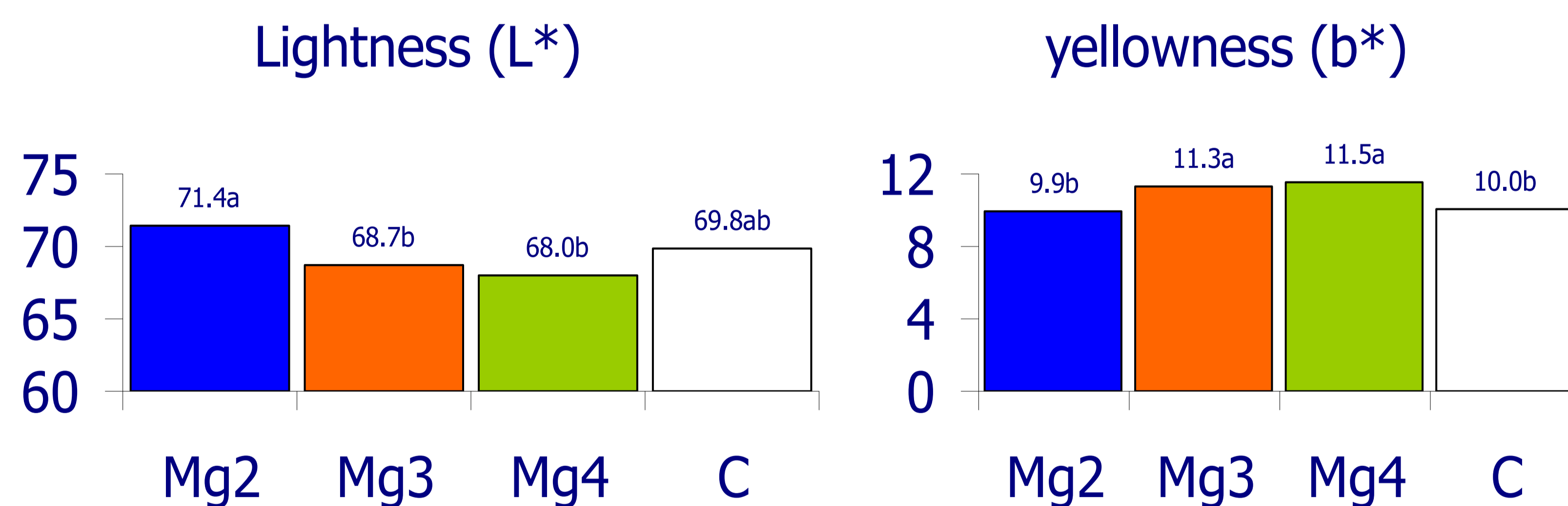
Daily concentrate intake



Similar performance and mineral concentrations in serum

Carcass characteristics

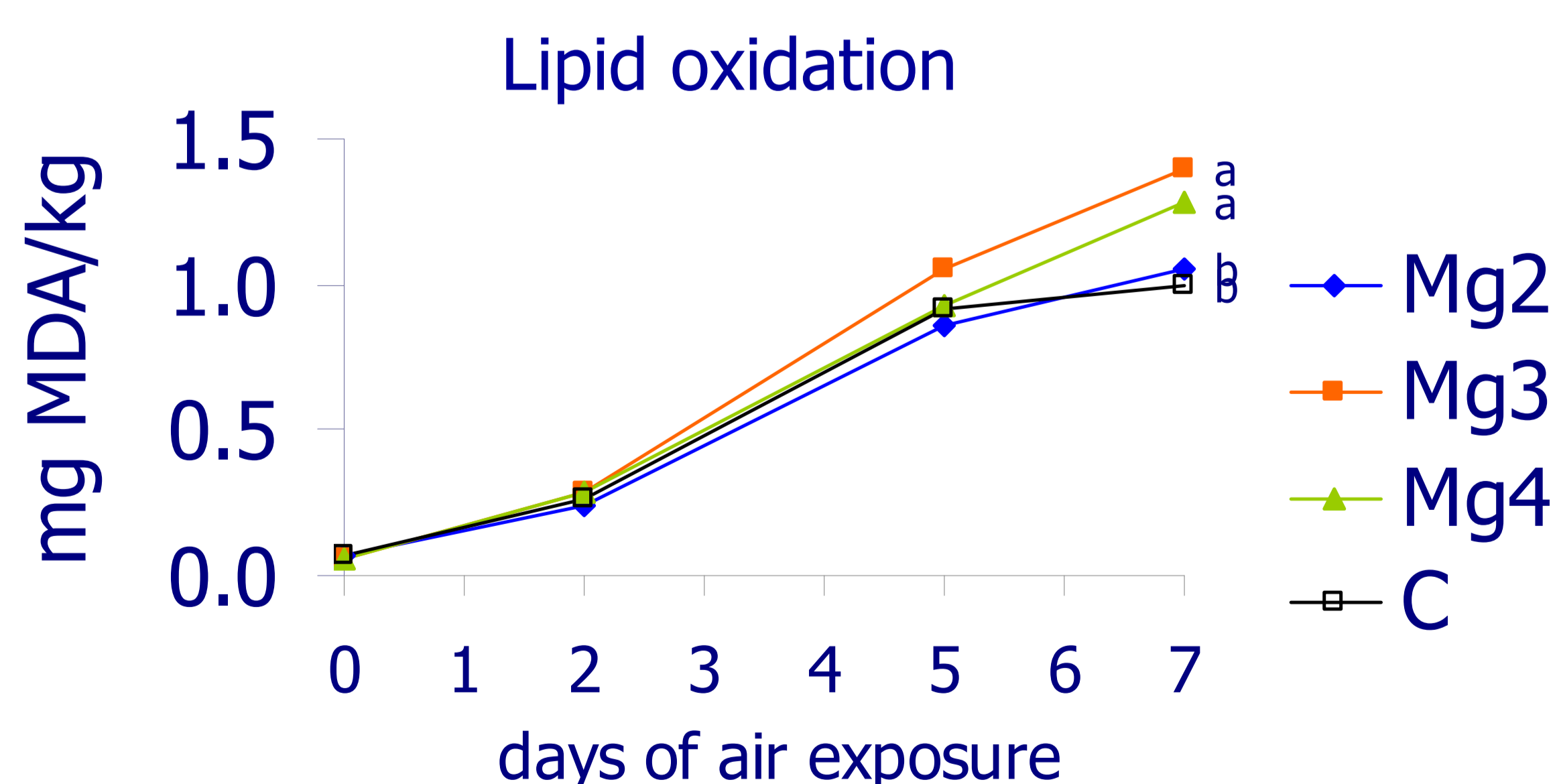
Similar carcass weight and dressing percentage but...



different fat colour

Meat characteristics

Similar pH and colour but...



different lipid oxidation after 7 days of air exposure

Conclusions

The source of magnesium did not have a relevant impact on performance, carcass and meat quality but meat of lambs that received C (100% caustic MgO) and Mg2 (caustic semicalcined MgO and MgCO₃) had longer shelf life