

**Performance and meat quality of light lambs fed concentrates with different sources of magnesium***M. Blanco<sup>1</sup>, G. Ripoll<sup>1</sup>, I. García<sup>2</sup>, R. Bernal<sup>2</sup> and M. Joy<sup>1</sup>**<sup>1</sup>CITA. Unidad de Tecnología en Producción y Sanidad Animal, Avda de Montañana 50059 Zaragoza Spain, <sup>2</sup>Magnesitas Navarras S.A., Av. Roncesvalles s/n, 31630 Zubiri, Spain; mblanco@aragon.es*

The aim of this study was to compare the performance, carcass and meat quality of Rasa Aragonesa lambs (n=56) fed a commercial concentrate (87.8% DM, 17.7% CP, 2.7% EE) with different sources of magnesium (Mg) until slaughter at 22 kg LW. Lambs were randomly assigned to four treatments at weaning (LW=12.6±1.53 kg). Magnesium was incorporated in the concentrate as 100% caustic MgO (C), caustic semicalcined MgO and MgCO<sub>3</sub> (Mg2), caustic semicalcined MgO and calcined dolomite (Mg3) or caustic semicalcined MgO and Mg(OH)<sub>2</sub> (Mg4). The source of Mg did not affect weight gains (293±53.2 g/d; P>0.05), daily concentrate intake (0.95±0.021 kg/d; P>0.05) and slaughter age (78±10.4 days; P>0.05). Serum concentration of sodium, phosphorus, Mg and calcium during the fattening period was not affected by the source of Mg in the concentrate (P>0.05). Carcass quality was not affected by the source of Mg except for fat lightness and yellowness indexes. Mg2 lambs had greater lightness than Mg3 and Mg4 lambs (71.4, 68.7 and 68.0, respectively; P<0.05); C and Mg2 lambs had lower yellowness than Mg3 and Mg4 lambs (10.0, 9.9, 11.3, 11.5, respectively; P<0.05). Meat pH and colour were not affected by the source of Mg (P>0.05) but lipid oxidation was affected by the interaction between the source of Mg and the time of oxygen exposure (P<0.01). When meat was exposed to oxygen for 0, 2 and 5 days, lipid oxidation was similar among sources of Mg but when it was exposed for 7 days lipid oxidation of Mg3 and Mg4 lambs was greater than that of C and Mg2 lambs (1.4, 1.3, 1.0 and 1.1 mg malonaldehyde/kg meat, respectively; P<0.05). In conclusion, the source of Mg in the concentrate did not have relevant effects on performance, carcass and meat quality. However, Mg2 lambs had meat with greater lightness and lower yellowness and decreased the lipid oxidation improving the shelf life.