30) Welfare and meat quality of Limousine organic calves

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Abstract

In order to verify the effect of farming system on behaviour and meat quality of organic beef cattle, eight Limousine calves were group-housed in a barn (group B), while other eight were allowed to graze on natural pasture according to the organic Regulation (EC) 834/2007 (group P). The trial was carried out in an organic farm of the Mugello area (Tuscany, Italy). Animals from group P were observed more often in 'natural' activities such as grazing, self-grooming and locomotion as compared to the group B. Some of these differences, such as self-grooming, could be also observed when the animals were returned to the barn. Blood parameters (cholesterol, Cl, Mg, P, Ca, Albumin, Total Protein, Globulin and Glucose) did not show any significant differences between groups. In addition, 'in vita' and 'post mortem' performances, physical analysis on tissues composition (muscle, fat and bone), cooking loss, drip loss, tenderness, pH, water holding capacity and colour did not show any significant difference between groups. As to fatty acid profile of LD muscle, higher levels of 15:0 anteiso and 15:0 ($P \leq 0,05$), 18:2 n6cis ($P \leq 0,01$), 18:3n3 ($P \leq 0,001$), and polyunsatured n6 ($P \leq 0,01$) were observed in group B. Panel test showed that keeping the animals on pasture did not adversely affect beef sensory properties. In particular, tenderness was not significantly reduced by grazing activity.

In conclusion the animals reared at the pasture did not show significant differences neither on performances nor on meat quality, whereas behavioural observations showed that rearing animals at pasture might affect their welfare. Results indicated that in organic farms animals may be conveniently raised on the pasture for the whole rearing period and kept in the barn only for the fattening phase.

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