The behaviour of confined or free-range Podolian young bulls

A. Braghieri*, C. Pacelli, N. Piazzolla, A. M. Riviezzi, F. Napolitano

Dipartimento di Scienze delle Produzioni Animali, Università della Basilicata, Potenza, Italy

**Correspondence: ada.braghieri@unibas.it*

This study aimed to evaluate the effect of confinement on the behaviour of Podolian young bulls. In one group six animals, aged about 11 months at the start of the experiment, were allowed to graze on a natural fenced pasture (18 ha of grassland, 2 ha of shrub vegetation) until slaughter (group FR). Other six subjects (group C) of the same age were confined in a loose barn with a straw bedded resting area and an uncovered exercise area (13.4 m^2/head). Five sessions of behavioural observations were performed from April to mid-June (spring) and four from mid-June to August 2008. During a 6-h period, alternatively conducted from 06.00 to 12.00 and from 12.00 to 18.00, the behaviour of a focal animal was continuously monitored. In each session a different animal was chosen. Data were subjected to ANOVA with season, rearing system and their interactions as factors, using the observation session as experimental unit. For most of the variables no interactions season x rearing system were observed. FR subjects walked longer distances in comparison with C animals ($P<0.05$). This is closely related to the higher walking ($P<0.05$) activity and the lower inactivity ($P<0.01$) observed in FR bulls as compared to group C. These results may be attributed to the fact that grazing animals receive more environmental stimuli for exploration and feeding as well as to a different availability of food resources, as also suggested by the higher feeding ($P<0.001$) and standing ($P<0.01$) activities recorded in group FR. In response to high summer temperature walking ($P<0.001$) and standing ($P<0.05$) were lower, whereas inactivity was higher ($P<0.05$). Group FR showed lower agonistic ($P<0.05$) and non-agonistic ($P<0.01$) interactions as possible consequences of reduced competition for resources (food, water, resting areas, etc.) and increased attention to the environment, respectively. Obviously, higher space allowance and inter-individual distances can have also induced a reduced number of social contacts. Vocalisations were higher in FR animals ($P<0.05$) and in spring ($P<0.05$). Vocal signals are used to keep contact with and locate other herd members, therefore they were more frequently expressed in free-range conditions and when animals moved more (spring). We conclude that confinement markedly affected the behaviour of the animals.