UNIVERSITY OF MILAN
ITALY

FONDAZIONE INIZIATIVE
ZOOPROFILATTICHE E ZOOTECNICHE

PROCEEDINGS OF THE 37th INTERNATIONAL CONGRESS OF THE ISAE

June, 24-28 2003
Abano Terme - Italy
Hotel Terme
Alexander Palace

EDITO A CURA DELLA
FONDAZIONE INIZIATIVE ZOOPROFILATTICHE
E ZOOTECNICHE - BRESCIA
Via A. Bianchi, 1 - 25124 Brescia

DO CHANGES OF PEN AND PENMATE AFFECT THE BEHAVIOUR OF HEIFERS?

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Because the social environment of dairy heifers can change repeatedly, we wanted to investigate if relocation affects their behaviour. In the study 32 Holstein heifers were housed in pairs until they were 13 months old. 16 heifers stayed in the same pen with the same penmate (*control*). The pen and penmates of 16 heifers were changed 16 times between 11 and 13 months of age (*regrouped*). The behaviour of heifers was observed for three hours continuously after the 2nd, 7th, 13th and 16th regrouping. Observations were also made for 24 hours (scan sampling every 5 min) before the 1st and after the 5th, 12th and 16th regrouping. A social confrontation test was run with one control and one regrouped heifer put together into an arena for 8 minutes. Statistical analyses were done using GLM, pen being a random factor against which the treatment effect was assessed.
Three hours after each regrouping, regrouped heifers explored their pen more ($P<0.05$) and had agonistic interactions with their peer more quickly ($P<0.001$) and more frequently ($P<0.01$) than control heifers did. Duration of contact bouts was longer in control heifers compared to regrouped heifers after the 5th regrouping (1.6 vs. 1.0 scans, $P=0.05$). After the 16th regrouping, regrouped heifers tended to have more bouts of contact than controls (7.4 vs. 4.5, $P=0.10$). No differences were observed in the social confrontation test between the two treatments.
Change of pen and penmate clearly increased aggression between heifers right after every regrouping. However, according to the 24 hours observations and to the social confrontation test, regrouping had no long lasting effect on the behaviour of heifers. Therefore, regrouping might not cause long lasting stress to dairy heifers.