Agonistic interaction in group housed breeding does (Oryctolagus cuniculus)

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Key words
rabbit does, group housing, lesions, stress, agonistic interactions, risk factor

Aim of the study
The aim of this thesis was to identify the extent of lesions in group housed rabbit does and potential risk factors that lead to lesions and find ways to reduce agonistic interactions

Material and methods
In an epidemiologic survey, lesions were scored twice on 30% of the breeding does on all 28 commercial Swiss farms with group housed breeding does. With the help of a questionnaire risk factors potentially associated with lesions were determined. In a second part, the effect of odour neutralising substances (vinegar and alcohol) on the aggressive behaviour was tested. Lesions, stress parameters (body temperature, blood glucose) and aggressive behaviour were assessed before and after the isolation phase. In a third part, effects of group stability on aggression, lesions and stress after reunion were studied. In 12 groups group composition before and after the 12 days isolation period remained the same (S) whereas in the other 12 groups (6 in each trial) two or three does were replaced after the isolation phase by unfamiliar does (M). Before and after regrouping, data on lesions, stress levels (faecal corticosterone metabolites (FCM), agonistic interactions were collected.

Results and significance
In the epidemiological survey, about 33% of the does examined had lesions, including wounds that were almost healed and small scratches. severe lesions were counted on 1% of the animals. The extent of lesions being higher in summer than in spring. More lesions were found on farms where the does were isolated between parturition and artificial insemination than on farms without isolation. In the second part, after regrouping more agonistic interactions were observed and body temperature and blood glucose levels were higher than before regrouping. No influence of the treatment was found. In the third part, there was a trend towards more lesions in M-groups compared to S-groups. After regrouping, FCM levels were increased in M-groups, but not in S-groups. The frequency of biting and boxing increased more in M-groups than in S-groups. These findings indicate that group stability had a reducing effect on lesions, stress and agonistic interactions. But one reproduction cycle might be too short to establish and maintain a stable hierarchy, and after a 12 day separation period, the social hierarchy among rabbit does may need to be re-established regardless of familiarity. The results of this thesis indicate that the isolation between parturition and insemination and the subsequent regrouping is an important trigger for aggressive behaviour. On the other hand, the isolation phase may be necessary to avoid the crushing of pups and pseudopregnancy.

Publications, posters and presentations
Andrist, C.A.; Bigler, L.M..; Würbel, H.; and Roth, B.A. (2012) Effects of group stability on aggression, stress and injuries in breeding rabbits. Appl. Anim. Behav. Sci. 142: 182-188.
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