

Effect of regrouping and of the presence of a buck on behaviour and physiological parameters in group-housed breeding rabbits

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Key words

Female rabbits, group-housing, agonistic interaction, injuries, regrouping, buck, stress

Aim of the study

Grouphousing of breeding rabbits is recommended for better utilisation of space in larger enclosures and to enable the does to experience socio-positive interactions, but it can lead to agonistic behaviour causing injuries and therefore compromising both animal welfare and production. The aim of the study was to investigate possible mechanisms and factors influencing agonistic behaviour by comparing two methods of regrouping female rabbits and two methods of introducing the buck into a group of breeding rabbits with respect to their effects on behaviour, injuries and stress responses of the does.

Material and methods

In the first experiment, two unfamiliar rabbits were introduced to the breeding group either in their familiar pen or in a novel pen. Behaviour, injuries and physiological stress parameters (body temperature and blood glucose level) were recorded before and after regrouping. In the second experiment, the buck was either kept 10 days in the group of does or replaced by a second buck after 5 days. Reproductive success, behaviour and injuries were recorded in each group in both treatments.

Results and significance

In the first experiment the behaviour was not affected by the method of regrouping. Light agonistic behaviour tended to decrease, while severe agonistic interactions increased in both treatments after regrouping. However, the number of injured animals and the body temperature on the third day increased when regrouping the rabbits in a novel clean pen. Based on these findings, we recommend introducing unfamiliar does into stable groups in their familiar pen. In the second experiment the reproduction rate was not affected by the exchange of the buck. The does in the treatment with two bucks showed less passive behaviour and spent more time in the shelters. This may be a sign of the disturbance of the does by the exchange of the buck. After removing the buck the number of agonistic interactions increased. The small quantity of injuries was surprising though. In the third reproduction period, a higher number of agonistic interactions took place, but no injuries were found. In the fourth reproduction period less agonistic interactions were observed, however we found some animals with injuries. Due to our observations, we recommend the reproduction management method with keeping one buck for 10 days in a group of breeding rabbits. The agonistic behaviour of reproducing does seems to be complex and there may be mechanisms which prevent injuries in conflict situations. Therefore, further research is needed to assess these mechanisms.

Publications, posters and presentations

Graf, S.; Bigler, L.; Würbel, H.; Buchwalder, T. (2008) The presence of a buck reduces aggression in group-housed breeding rabbits, but may increase restlessness. In Proceedings of the 42nd Congress of the International Society for Applied Ethology: 132. Dublin (+ Poster).

Graf, S.; Bigler, L.; Würbel, H.; Buchwalder, T. (2008) Der Einfluss des Rammels auf die Aktivität und die Häufigkeit agonistischer Interaktionen von Zuchtziehen in der Gruppenhaltung'. KTBL-Schrift 471, Aktuelle Arbeiten zur artgemässen Tierhaltung: 203-211. Freiburg (+ Presentation).

Graf, S.; Bigler, L.; Würbel, H.; Buchwalder, T. (2009) Zusammensetzen von Zuchtkaninchen in der Gruppenhaltung: Vergleich zweier Methoden bezüglich der agonistischen Interaktionen und ausgewählter Stressparameter. In 16th International Symposium on Housing and Diseases of Rabbits, Furbearing Animals and Pet Animals. 127-139. Celle (+ Presentation).

Project 2.05.09

Project duration May 2006 - August 2009