Use of head partitions reduce stress in goats during feeding

August 4 2016

Goats are less stressed during the feeding time, if head partitions are installed on the feeding racks. Credit: Eva Nordmann/Vetmeduni Vienna

Limited space allowance at the feeding place often leads to increased agonistic behaviour among goats. But social tension can be reduced by properly designing the feeding areas. Researchers from the Institute of Animal Husbandry and Welfare at Vetmeduni Vienna, in cooperation with the Institute of Organic Farming at the Thünen Institute, have shown that goats experience less stress during feeding when partitions are placed between the individual feeding places. The study was published in the journal *Applied Animal Behaviour Science*.

Competition in the goat pen is especially high during feeding time. Social tension rises and there is an increased frequency of agonistic interactions. A significant influence here is the available space. Goats prefer to maintain a minimum distance, termed "individual distance", to other goats. But this amount of feeding space is only rarely available. "To get to their food, the animals 'involuntarily' come into closer proximity than they would like. This can lead to injuries, stress and reduced milk yield," says project leader Susanne Waiblinger of the Institute of Animal Husbandry and Welfare at Vetmeduni Vienna.

Well-designed feed barriers have positive effects

Structural aids such as feeding racks can improve the situation. They can create a barrier between the neighbouring feeding places, as the animals have to put their head through the individual openings in order to feed. But feeding racks do not prevent animals from being disturbed during feeding. The goats constantly observe which animals are standing next to them or if higher-ranking animals are approaching. "They interrupt their feeding because they want to displace other animals when they come too

close or because they have to avoid dominant animals," explains Waiblinger.

It is known from other animal species that non-transparent head partitions between the animals can, in a manner of speaking, reduce the individual distance. "Animals don't feel disturbed when they can't see each other," says Waiblinger. The question therefore was whether head partitions can also reduce tensions at the feeding area of a goat herd.

Goats will stop feeding more often to displace other animals without any structural aids at the feeding area. Credit: Eva Nordmann/Vetmeduni Vienna

The team around first author Eva Nordmann therefore attached additional head partitions to the feeding racks. They then observed the social behaviour in two groups, each kept for two weeks with the head partitions and two weeks without, and assessed the nutritional status of the goats. They also noted how many feeding places were occupied simultaneously and analysed stress indicators in faecal samples. A positive effect of the head partitions was observed especially in terms of social behaviour and feeding place use.

Out of sight, out of mind

High-ranking goats were calmer during feeding because the head partitions prevented them from seeing the neighbouring feeding places and they did not feel compelled to chase away competitors. As a result, other goats are less frequently driven away from their feeding places. Feeding times were more relaxed in terms of less frequent disturbances during feeding. More feeding places were used at one time and the goats more often stood directly next to each other without leaving a feeding place unoccupied.

The researchers even observed an increased nutritional status (musculature and fat) measured at the lumbar spine among the high-ranking animals. The fewer disturbances by neighbouring animals therefore appeared to increase food intake among high-ranking animals.

Head partitions support sense of well-being

The head partitions significantly reduced the agonistic interactions between the animals in the feeding area. The feeding time was more relaxed for all members of the herd. "Head partitions can therefore be recommended as supportive measures in the feeding area," concludes Waiblinger. "Together with metal palisades, they form a very good

structure for the feeding area in the goat pen and contribute to the well-being of the animals. That can also improve the health and milk yield of the goats in the long term."

More information: Eva Nordmann et al. Head partitions at the feed barrier affect behaviour of goats, *Applied Animal Behaviour Science* (2015). DOI: 10.1016/j.applanim.2015.03.011

Provided by University of Veterinary Medicine—Vienna