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Auswirkungen verschiedener Fixationsmethoden bei der Schur auf das Verhalten von Alpakas  
(*Effects of different methods of restraint for shearing on the behaviour of alpacas*)

Diploma Thesis Veterinärmedizinische Universität Wien 2016

**Summary**

Alpacas have to be sheared once a year. For this reason, different methods for restraint are used. The aim of this study was to observe, if different methods have different effects on the animal's welfare and if an influence of the shearing itself can be seen. Therefore, three common methods of restraint were tested in this study: Standing, the animal is standing and held by hand; Ground, the animal is laid down and its legs are stretched out by ropes; Table, the animal is restrained on a special table, the legs are also fixed and stretched by ropes.

Our study consisted of two experiments. In experiment FS the animals were restrained with these methods while being sheared. On three following days 45 different alpacas were sheared, five animals per treatment in a block. Hence, after three days 15 animals were sheared with each method. In experiment F the animals were restrained for 15 minutes without being sheared. Therefore the same 15 animals were subjected to each of the three restraint methods with a one week break in between. Within the first 20 minutes after the beginning of restraint the defence and stress-associate behaviour was recorded continuously for 14 minutes. Following, until two hours after the beginning of restraint, the social- and the comfort-behaviour as well as vocalisations were recorded for 16 minutes continuously. During this period the general activities were recorded at 10-minutes intervals as well.

In experiment FS the animals which were sheared standing showed less flinching and vocalisations, but more attempts to escape. When sheared standing, the time in fixation was shortest, but nail cutting was not included. After shearing, from 30 minutes to two hours after the beginning of restraint, the animals fixed standing laid more and earlier and tended to ruminate more often compared with the other methods. Likewise, animals sheared on the table also laid more and ruminated more compared to the animals sheared on the ground. In addition, the frequency of socio-positive interactions were higher after ground and table in the second hour after the beginning of restraint compared with the animals fixed standing. No differences could be seen between the three methods in aggression, comfort-behaviour or eating.

In experiment F less vocalisations were recorded in comparison to experiment FS. In standing, the defence and flinching was less compared with the other methods. Additional, attempts to escape were more. However, this method was the only one giving the possibility to escape. From minute 15 to 20 no difference in attempts to escape and defence was observed between all methods. Vocalisations and flinching was more after table than after ground. After restrained standing the animals tended to show more eating compared with both other methods, though more animals could be seen eating after ground than after table fixation. In the second hour after restraint the animals showed more alertness after table than after standing. More animals stood after restraint on the ground. Socio-positive behaviour tended to be more often after fixed on the ground compared with standing.

## **IGN-Forschungspreis 2017 – Franziska Hajek**

Taken together, the results show that standing seems to be the least aversive method. Table and ground showed fewer differences. In experiment FS ground seems to be more distressing than table, in experiment F the animals showed more signs of stress when restrained on the table. Some animals showed strong reactions to shearing (as vocalizing continuously) during each of the treatments. These reactions could be reduced if animals get accustomed to the fixation, the shearing and the handling by humans.