

Does relative humidity affect reproducibility of animal research?

Andersen KB (kba@scanbur.com), Petersen KE, Whitfield S, Salado DP, Andersen CH, SCANBUR A/S

Research Collaborators:

Beate Obermüller, Medical University of Graz
Stephen Woodley & Stuart Newman, Kings College London
Rebecca Towns, University College London
BVS, University of Edinburgh
CNL

Collaborators on these studies have no affiliation or financial links to SCANBUR A/S

Ongoing studies show interesting preliminary data on rodent welfare and physiology when relative humidity is locally, accurately controlled at 55% compared to when relative humidity is controlled centrally, and thus fluctuating with the variable weather conditions

Improved control of environmental conditions within a UK mouse facility has shown a **reduction in pre-weaning mortality**. The current study is looking at controlled relative humidity of 55% compared to building controlled. Publication due to be released Q1/2 2019

In a test study in Austria, **aggression in male mice dropped** when relative humidity was controlled at 55%

Due to customer anecdotes suggesting improved results a study will commence in the UK to investigate the **effect** of relative humidity controlled at 55% on **Embryo Transfer in mice**. This study will commence in September 2018

In a facility in the UK, **rat breeding pairs** housed under controlled relative humidity of 55% **produced much larger litters** compared to when they were housed under conditions where humidity levels were controlled centrally and fluctuated

A mouse facility in Canada that experiences low humidity levels during the cold winter months had challenges with **scaly skin on the mouse tails**. These health issues **quickly improved**, when the relative humidity was controlled at 55%

In a UK facility when tightly controlling relative humidity at different levels within the regulatory requirements the **amount of water mice drank changed significantly** in response to changes in relative humidity and was less variable compared to mice housed under room controlled relative humidity



Contact us for more information or if you are interested in **borrowing a ScanClima** and investigate whether controlled relative humidity impacts your animals and research

kba@scanbur.com

A patented technology inside ScanClima air handling units ensures a relative air humidity with an accuracy of $\pm 3\%$. In a number of research collaborations we are documenting the impact of the ScanClima air handling unit on reproducibility, breeding and animal welfare.