

How It Works

Reduce Flooring Concerns in Wire Mesh Cages

Problem:

The potentially negative impact on foot well-being (wear and tear) when housing rats in wire mesh cages has been a concern of attending veterinarians for a long time. Studies have shown that consumption of bedding and feces in wire bottom cages has compromised the integrity of studies by providing access to extraneous materials.

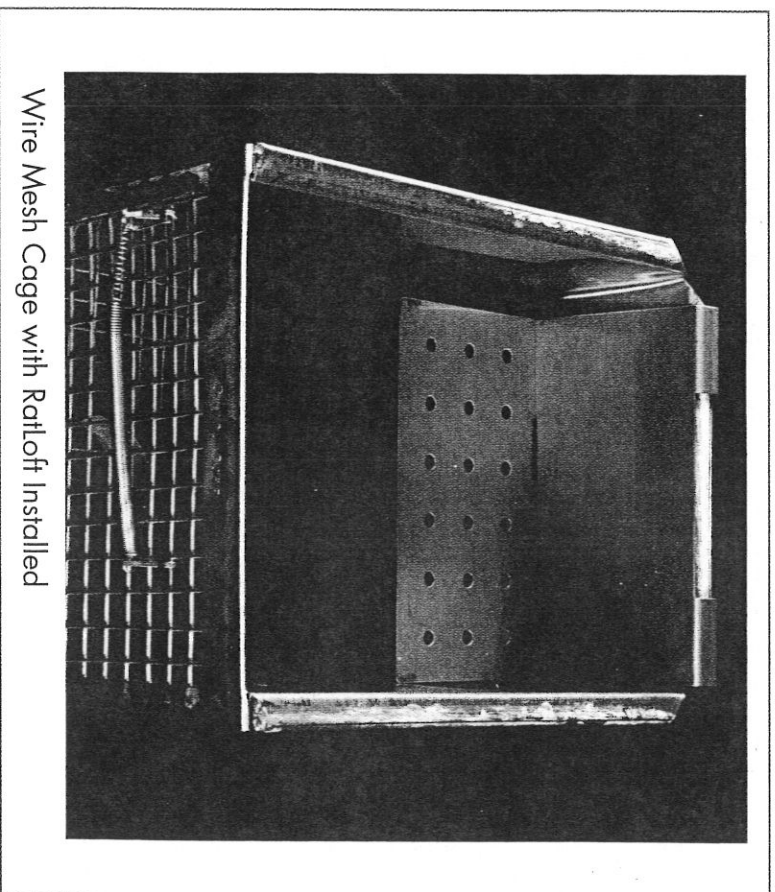
Additionally, the environment of rat and mouse dams with suckling litters is hectic. She cannot get away from the ever present litter, whose main interest is their next meal, which may result in more stress to an already stressful environment.

Solution:

To address rat comfort, the concept of a loft, i.e. the RatLoft, evolved. The loft is constructed by making two bends in a sheet of stainless steel. The first bend results in a U-shape that facilitates the hanging of the loft from the back or side of the cage. The second bend results in a 90 degree angle to provide a platform approximately 3.5 inches above the cage floor. IACUC vivarium inspectors have reported that nearly all of the rats singly housed in wire bottom or shoebox cages are found resting on the loft when they enter the room. Two reasons for this may be comfort or the fact that it is darker in the back top of a cage in a standard rack.

Recently, a hinge was added to the RatLoft. This retained the usefulness of the loft but added the ability of the technician to push the platform up and out of the way when the rat must be captured. Lofts may also be used in shoebox caging with bedding providing a perch above the fecal and urine contaminated bedding.

A recent study examined the use of the RatLoft on nursing mice or rats with a litter. The experiment looked at a total of 56 litters (27 with the RatLoft, 29 without the RatLoft). Dams were weighed the day of birth of the litter and both dams and pups were weighed at weeks 1, 2, and 3. Dams with RatLofts produced 0.8 more pups per litter which resulted in an average of 33g more pup weight at weaning. Changes in dam weight



Wire Mesh Cage with RatLoft Installed

at weeks 1, 2, and 3 when the loft was available were +7g, +12.9g, -11.9g where as that of dams without access to the loft were +5g, +4g, -10.3g. Thus, dams with access to a RatLoft gained more over the first two weeks of lactation than dams without the RatLoft. One possible explanation for the weight gain in the dams is that the placement of the RatLoft on the side of the cage with access to the feeder allowed the dams to eat more and thus produce more milk which increased total litter weight as well.

The RatLoft reduces the consumption of bedding and feces and gives nursing dams a break.

For more information, go to www.ratloft.com.