



instead of remain passive. These are positive behaviours, says the researcher.

Chickens need to be able to take dust baths to rid their feathers of fat and dirt, just like sparrows do in the wild, says Vasdal.

Meat birds also need to climb and jump to test out their wings, even though they can't fly.

"We observed that when the coop is arranged in a way that lets chickens be more active, they get livelier and run around more. When they get a piece of straw in their beak, they usually run off with the other chickens right on their heels, as if they're playing a game," she says with a laugh.

### **Chicken coop experiment**

The researchers needed to figure out how to measure whether the chicken activities actually affected their well being.

So they divided a standard chicken coop into two, with several thousand chickens in each section. The only difference between the coops was that half the birds had access to platforms, hay bales, and peat dust baths.

These chickens were able to satisfy their need to peck, explore and get up high. Chickens in the other section formed the control group and lived without these accoutrements.

"It was easy to see that the chickens became more active in a more challenging environment," says Vasdal. Chickens in the coop without stimulating equipment become more passive.

### **Trying to fly**

And unlike chickens that may peck each other if they're bored, there is little pecking among broiler chickens. They are generally less aggressive, but they like to peck at hay bales.

The platform meets other needs and is good for the birds' bone health.

"In the wild, chickens are motivated to roost up high and to find shelter under something protective. The chickens have to use their legs and wings to get onto and down from the platform, and some make a valiant attempt to fly down instead of using the ramps," says Vasdal.

### **Less lameness**

The researchers also measured the birds' injuries, disease, bone quality, growth and behaviour.

In addition, they measured environmental factors, such as food intake, the quality of the air, water, feed and the animal density, known as resource-based indicators.

Bone quality is assessed by measuring the chickens' gait. "We found that chickens developed less lameness in an enriched environment," says Vasdal.

Although poor bone quality rarely leads to bone fractures, researchers imagine that crippled animals experience pain.

"Lameness can also prevent chickens from performing typical chicken behaviour, so we want them to be able to walk properly," she says.

### Added activity doesn't reduce weight

But farmers might want to know if the higher activity level causes the chickens to eat more or not gain as much weight as more sedentary chickens.

"We saw no differences in the chickens' dressed weight, and feed consumption was the same in both groups," Vasdal says.

According to Vasdal, the largest Norwegian producers of broilers have implemented environmental enrichment in the last four years. This applies to the five major chicken producers Nortura, Den Stolte Hane, Norsk kylling, Ytterøy-kylling and Gårdsand.

Vasdal conducted the study in collaboration with researcher Judit Vas and Professor Ruth Newberry at NMBU in Ås and Professor Randi Oppermann Moe from NMBU Adamstuen.

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 [Chickens that have 'enriched' coops are more active and develop healthier bones, according to researcher Guro Vasdal at Animalia. \(Photo: Anne Lise Stranden / forskning.no\)](#) [6]  
 [Chickens need to take dust baths and prefer peat moss to clean their feathers. Peat provides a greater insulating effect than sawdust. \(Photo: Anette Møller / Den Stolte Hane\)](#) [7]  
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[G. Vasdal et al. Effects of environmental enrichment on activity and lameness in commercial broiler production. . Journal of Applied Animal Welfare Science, 2018. doi.org/10.1080/10888705.2018.1456339](#) [9]

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