

## **REQUEST FOR A SCIENTIFIC OPINION ON THE USE OF LIGHT, RESTRICTIVE FEEDING, USE OF FIBROUS FEED AND STOCKING DENSITY AND THE ANIMAL WELFARE CONSEQUENCES FOR POULTRY SPECIES KEPT IN NORWAY**

### **BACKGROUND**

The welfare of farmed domestic fowl and turkeys is regulated by the animal welfare law<sup>1</sup>, regulation on the keeping of domestic fowl and turkeys<sup>2</sup> (hereafter poultry regulation) and the regulation on the welfare of farm animals<sup>3</sup>. It is more than 20 years since the poultry regulation was issued, and many of the provisions are not necessarily suited for today's farming systems. Knowledge on animal welfare topics has increased in the intervening years and the welfare of farmed poultry may not be adequately addressed by the current legislation. For this reason, the Norwegian Food Safety Authority has already proposed certain amendments to existing provisions concerning the keeping of domestic fowl and turkeys.

However, there were some provisions where we lacked exact knowledge on the animal welfare risks and did not propose amendments. Without up-to-date scientific data it is not possible to decide on the best manner to ensure the welfare of the birds.

We also wish to introduce new legislation concerning the keeping of ducks, geese, and quail. Therefore, these species have for some of the questions been included in the mandate.

### Light

Light is regulated in a general manner by section 12 in the poultry regulation. For example, there shall be sufficient light for the birds to perform ordinary behaviour and it shall not have an adverse impact on their welfare. An additional requirement of minimum 20 lux applies to the keeping of broiler chickens. In 2010 EFSA in its opinion "Welfare aspects of the management and housing of grandparent stocks raised and kept for breeding purposes" identified low light intensity as one of the top five hazards for these birds. They also highlighted that very low light intensities (< 5 lux) may cause eye abnormalities as the functional development of vision may be affected, especially when these conditions occur during rearing. Lower light intensities will also limit the bird's ability to perform certain behaviours such as feeding and foraging.

Since 2010 we have new knowledge concerning the importance of other light parameters such as wavelength, light spectrum, frequency, UV-light and light flicker. These parameters may be more or just as relevant as lux in securing the birds a good environment.

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<sup>1</sup> Lov 2009-06-19 nr. 97 om dyrevelferd <https://lovdata.no/dokument/NL/lov/2009-06-19-97?q=dyrevelferd%20lov>

<sup>2</sup> Forskrift 2001-12-12 nr. 1494 om hold av høns og kalkun <https://lovdata.no/dokument/SF/forskrift/2001-12-12-1494?q=h%C3%B8ns%20og%20kalkun>

<sup>3</sup> Forskrift 2006-07-03 nr. 885 om velferd for produksjonsdyr <https://lovdata.no/dokument/SF/forskrift/2006-07-03-885?q=velferd%20produksjonsdyr>

### Restrictive feeding and fibrous feed

EFSA in their opinion of 2010 (see above) also identified restrictive feeding of breeding animals as one of the top five hazards. In recent years some research<sup>4</sup> on restrictive feeding has demonstrated that use of fibrous feed may have a positive impact on breeders' welfare.

### Animal density and stocking density

For animal welfare reasons the poultry regulation contains provisions on density. Animal density is defined as number of birds per square meter and stocking density means live weight measured in kilograms per square meter. Since the poultry regulation entered into force in 2001, the breeds and hybrids that are kept on the farms in Norway are not necessarily the same as previously. Birds of breeds used in 2001 are probably larger or weigh more compared to twenty years ago. The legal requirements pertaining to animal density and stocking density may therefore be inappropriate and may have an impact on the birds' ability to move normally or perform comfort behaviours. Higher animal or stocking densities may also have an impact on the quality of the bedding or friable material provided or on the air quality in poultry houses.

The relevant legal requirements in the current legislation may be found in sections 25, 29, 30 – 34, 35a and 36. Please note that section 7 in the poultry regulation requires that birds are able to satisfy their physical and natural needs including performing comfort behaviours and must be able to move naturally. Natural movements include wing flapping, walking, normal posture, turning around, preening behaviour etc.

### **TERMS OF REFERENCE**

The Norwegian Food Safety Authority requests the Norwegian Scientific Committee for Food and Environment to provide a scientific opinion on three topics as mentioned below.

The request includes the different phases of the production cycle of poultry species and hybrids kept and farmed in Norway. The poultry species of interest are domestic fowl (*Gallus gallus*) and turkeys, and concerning light and fibrous feed also geese, ducks, and quail unless otherwise stated. Please differentiate between breeds, hybrids, housing, and commercial production system where relevant.

#### Light

- Describe the welfare consequences of various artificial lighting systems used in poultry production.
- Describe the lighting parameters which are of paramount importance in avoiding risks to the bird's welfare.
- Please provide the data on the appropriate limits for the different lighting parameters.

The baseline for appropriate lighting conditions is one that stimulates birds to perform comfort behaviours such as dustbathing, investigation, play and pecking and ensures that they thrive without compromising their health.

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<sup>4</sup> F. M. Tahamtani, H. Moradi and A. B. Riber; Effect of Qualitative Feed Restriction in Broiler Breeder Pullets on Stress and Clinical Welfare Indicators; *Frontiers in Veterinary Science*, June 2020, Volume 7, Article 316

### Restrictive feeding and fibrous feed

- Describe the welfare consequences of diets and feeding systems of layer breeders of domestic fowl
- Describe the welfare consequences of restrictive feeding<sup>5</sup> of turkey breeders. If it is common practice to restrictively feed any of the other species' breeders, please perform the assessment also for those species.
- Describe all the welfare consequences of hunger for the poultry species concerned.
- Provide recommendations on appropriate measures to prevent, mitigate or correct the welfare consequences of hunger resulting from restrictive feeding.
- Describe the welfare consequences of use of fibrous feed and specifically its effect in mitigating hunger, reducing abnormal behaviours such as feather pecking or stimulating the birds to increased activity and in performing comfort behaviours.

Please note that EFSA question Q-2020-00479 will investigate restrictive feeding of broiler breeders.

### Animal density and stocking density

- Describe the welfare consequences for domestic fowl and turkeys of abiding by the animal and stocking density rules cf. the poultry regulation sections 25, 29, 30 – 34, 35a and 36, in general and in particular its impact both on bird behaviour and the living environment such as quality of air quality, bedding, and litter.
- Please provide data on the appropriate limits for both animal and stocking densities for both species and the different stages of the production cycle. Where relevant provide data on the appropriate limits for hybrids farmed in Norway.

Please note that that EFSA question Q-2020-00479 will assess space allowance for broiler chickens. The baseline for appropriate densities is one that stimulates birds to perform comfort behaviours such as dustbathing, investigation, play and pecking and ensures that they thrive without compromising their health, cf. the poultry regulation section 7. They must also be able to access perches, feed troughs, areas with environmental enrichments etc. without difficulty or increase in the risk of injuries.

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<sup>5</sup> The amount of feed supplied to turkey breeders during rearing is restricted compared to standard turkey diet. The breeders are usually only fed once per day.