

# Free-range chickens are more prone to disease

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Chickens kept in litter-based housing systems, including free-range chickens, are more prone to disease than chickens kept in cages, according to a study published in BioMed Central's open access journal *Acta Veterinaria Scandinavica*.

Researchers led by Oddvar Fossum, at the National Veterinary Institute in Sweden, noted that during the switch in housing from battery cages to enriched cages and litter-based systems, including free-range, there was an increase in the number of chickens dying. During the study, the authors compared the causes of deaths in flocks of chickens kept in different types of housing across Sweden.

The Swedish Animal Welfare Act from 1988 mandated a switch from battery cages for laying hens to alternatives, including free-range and indoor litter-based systems, allowing birds to behave naturally. Between 2001 and 2004, there was a large increase in the numbers of flocks being kept in more humane housing.

The cause of death was recorded in 914 hens from 172 flocks. For each of the birds tested, the housing system of their flock was recorded.

There were significantly more deaths in flocks farmed either free-range or from indoor litter-based systems than in flocks of caged chickens. The most common cause of death recorded was bacterial infection, most often caused by *E. coli*. These diseases were more frequently seen in flocks from litter-based and free-range systems than in caged birds. In

addition, free-range chickens and chickens from litter-based housing were more likely to have been pecked by other birds, which can affect welfare and lead to death. Parasitic infections caused by mites were also more common. However, housing did not appear to affect the incidence of viral infections

The authors emphasize that, because of the change in housing systems that occurred between 2001 and 2004, many of the farmers caring for these flocks lacked the experience and knowledge that would have prevented the higher mortality and disease rates. According to Fossum, "birds kept in indoor litter-based and free-range housing are more prone to disease but measures can be taken to counter this." Fossum adds, "the health of Swedish laying hens kept in these systems has improved as the farmers have become more experienced in managing the new housing systems."

Citation: Prevalence of antimicrobial resistance among bacterial pathogens isolated from cattle in different European countries: 2002-2004, Rene S Hendriksen, Dik J Mevius, Andreas Schroeter, Christopher Teale, Daniele Meunier, Patrick Butaye, Alessia Franco, Andra Utinane, Alice Amado, Miguel Moreno, Christina Greko, Katharina Stark, Christian Berghold, Anna-Liisa Myllyniemi, Dariusz Wasyl, Marianne Sunde and Frank M Aarestrup, *Acta Veterinaria Scandinavica* (in press), [www.actavetscand.com/](http://www.actavetscand.com/)

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