

Omega acids could reduce bone breakage in laying hens

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(PhysOrg.com) -- A study has found that adding the right combination of fatty acids to the diets of laying hens can significantly reduce bone breakage during lay. The research could provide a potentially significant route to maintaining food production whilst promoting animal welfare.

Researchers from the University of Bristol's School of Veterinary Sciences are speaking about their study, which is funded by the [Biotechnology](#) and Biological Sciences Research Council (BBSRC), at an annual animal science conference in Nottingham today (5 April 2011).

Bone breakage is a considerable welfare issue in laying hens and of the 29 million egg-laying [birds](#) in the UK a large proportion experience varying degrees of bone damage. Whilst increased food production is important to combat the challenges of global food security, this must not be achieved at the cost of the welfare of farmed animals. Therefore, reducing bone breakages in laying hens is an important issue.

Lindsay Wilkins, Research Fellow in Food Animal Science at the University of Bristol's School of Veterinary Sciences, said: "Laying hens are particularly susceptible to high levels of damage to the keel (breast bone) which result from their relatively poor bone health. This is an increasing issue as the industry moves towards production systems that allow for more movement and access to outside. Whilst these systems have obvious welfare benefits they also increase the higher risk of accidents and breakages."

Dr John Tarlton, Senior Research Fellow, who leads the present Bristol study added: "Our research has shown that omega-3 fatty acid added to the diet of free-range egg laying hens resulted in the birds' bones being significantly stronger, with up to 40 per cent fewer breaks."

The researchers worked with Noble Foods as an industrial partner and their findings are already being implemented to produce improved feeds.

Professor Douglas Kell, Chief Executive, BBSRC said: "To ensure that we can feed a growing world population sustainably and well it is essential that farmers maximise production, but this cannot be done at the expense of [animal welfare](#). By working with industrial partners researchers are able to implement their work more quickly to the benefit of farmers and their hens."

Another member of the Bristol group, Dr Michael Toscano, Research Associate, continued: "In addition to benefits to the chicken, omega-3 fatty acids are also beneficial for human health. One objective of our research has been to produce an egg with fatty acid content that benefits consumers, whilst achieving the same bone strengthening effect in the chicken. Our next challenge is to find the ideal balance of different [fatty acids](#) to maximise the hen's welfare whilst producing more nutritious eggs resulting in a positive outcome for chickens, producers and consumers."

This work was also carried out with support from the Department for Environment, Food and Rural Affairs (Defra).

The Association of Veterinary Teaching and Research Work (AVTRW), ASF, British Society of Animal Science (BSAS), World Poultry Science Association (WPSA) Annual Conference will be held at the University of Nottingham on 4-5 April 2011.

This study is a follow on project to the Defra funded research by Bristol University assessing the welfare of laying hens and ways to alleviate bone damage.

Provided by University of Bristol

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