THE UNIVERSITY of EDINBURGH

# *News Release*

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## Sunshine vitamin linked to improved fertility in wild animals

High levels of vitamin D are linked to improved fertility and reproductive success, a study of wild sheep has found.

The study, carried out on a remote Hebridean island, adds to growing evidence that vitamin D – known as the sunshine vitamin – is associated with reproductive health.

Experts hope that further studies will help to determine the relevance of the results for other mammals, including people.

Researchers led by the University of Edinburgh measured concentrations of a marker linked to vitamin D in the blood of an unmanaged population of Soay sheep, on St Kilda.

Scientists found that sheep with higher levels of vitamin D in their blood at the end of the summer went on to have more lambs in the following spring.

The study offers the first evidence that an animal's vitamin D status is associated with an evolutionary advantage.

Vitamin D is produced in the skin of sheep and other animals, including people, after exposure to sunlight. It can also be found in some foods, including certain types of plants. It is essential for healthy bones and teeth and has been linked to other health benefits.

Many studies in the lab have linked vitamin D to reproductive health in animals and humans. This is the first evidence of the link in wild animals.

Scientists carried out the research as part of a long-term study on the evolution of Soay sheep. The animals have lived wild for thousands of years on the islands of St Kilda, a world Heritage site owned and managed by the National Trust for Scotland.

The research is published in the journal *Scientific Reports*. It was funded by the Wellcome Trust and the Natural Environment Research Council.

Dr Richard Mellanby, Head of Small Animal Medicine at the University's Royal (Dick) School of Veterinary Studies, who led the research, said: "Our study is the first to link vitamin D status and reproductive success in a wild animal population.

"Examining the non-skeletal health benefits of vitamin D in humans is challenging because people are exposed to different amounts of sunlight each day. Studying the relationship between skin and dietary sources of vitamin D – and long term health outcomes – is more straightforward in sheep living on a small island."

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