

# New study shows vitamin D could help control TB in animals

28 September 2016, by Peter La



Credit: University of Surrey

A study published in *Research in Veterinary Science* demonstrates that vitamin D supplementation can reduce the severity of tuberculosis (TB) in wild boar and red deer

Wild boar and red deer are key hosts of TB and transmit the disease to cattle and other species, causing a major problem in farm and domestic animals across Europe

## Nutritional supplementation could be used as a novel control measure

Innovative pilot study was carried out in Spain by the Universities of Surrey and Extremadura, and animal conservation company Ingulados

Wild boar and red deer are key hosts of [bovine tuberculosis](#) – a chronic, infectious disease mainly caused by *Mycobacterium bovis* - in southern Europe, with the incidence of TB in these animals particularly high in certain areas of Spain. The research could therefore have a positive impact on [animal health](#) and – since these species are valuable in the hunting and meat products industries – local economies.

The research also concludes that vitamin D supplementation could be explored in other species such as badgers, which are key hosts for bovine tuberculosis in the UK.

Vitamin D – and other nutritional factors – are known to influence the severity of TB in humans but its relationship with cattle and other mammals has not been studied until now. The research takes an innovative 'One Health' approach, which explores human and animal health in a holistic way using key learnings across both disciplines. At the University of Surrey, expert in human nutrition Professor Susan Lanham-New collaborated closely with veterinary scientists from the University's School of Veterinary Medicine.

In the [pilot study](#), half of the animals were given a vitamin D3-enriched food while half were given no supplementation. Among animals with TB, there was a clear correlation between the severity of the disease and their blood concentration of vitamin D3. These animals were also more likely to be suffering from a localised TB infection than severe generalised TB.

Dr F. Javier Salguero of the University of Surrey said, "We know that eradicating TB – a massive problem in animals worldwide – is a complicated process. However, nutritional factors could play a significant role as a preventative measure. This research points to the fact that supplementing animals' diet with vitamin D could be a very cost effective approach to reduce prevalences."

The researchers are now planning to test vitamin D supplementation in [wild boar](#) and [red deer](#) on a larger scale in Spain, as well as exploring how vitamin D improves immunity against TB in these animals.

Provided by University of Surrey

APA citation: New study shows vitamin D could help control TB in animals (2016, September 28)  
retrieved 31 October 2020 from <https://phys.org/news/2016-09-vitamin-d-tb-animals.html>

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