

Research from the University of Bristol has developed new insights into how farmers treat their sheep for disease

January 31 2017



Credit: University of Bristol

Farmers who don't treat their sheep to avoid infection are often blamed for the national increase in disease. However an economic study, funded by the Biotechnology and Biological Sciences Research Council (BBSRC) has found that, in some scenarios, this is the most economically sensible decision to take.

Prior to 1992, [farmers](#) throughout the UK were required by law to treat all their sheep to prevent [scab](#), an infectious condition caused by the presence of a tiny parasitic mite. At that time there were only around 40 outbreaks per year. After compulsory treatment was removed, the number of scab outbreaks rose dramatically and there are now around 5,000 - 10,000 outbreaks each year. This costs the UK sheep industry at least £10 million every year.

The failure to reduce scab incidence, despite many industry initiatives, is often blamed on those farmers who are unwilling to use routine preventative treatments.

New research, published in the journal Preventive Veterinary Medicine by Emily Nixon and colleagues from the School of Biological Sciences, shows that many of these farmers are being blamed unfairly.

Information on the losses and treatment costs were analysed along with the risks of scab, to show whether it is financially better for a farmer to treat to prevent scab before any sheep are infected or whether it is worth running a risk, and only treating if the flock contracts scab.



A male *Psoroptes ovis*, the parasitic mite that causes sheep scab. Credit: University of Bristol

The analysis suggests that under current conditions, it is actually only cost-effective for farmers to use preventative treatments in areas where the scab risk is highest - Scotland, Northern England and Wales and where high risk grazing strategies (particularly common grazing) are used. For farmers in other areas, it is more cost-effective in the long run for them to only pay to treat if and when their flock gets scab.

Emily Nixon said: "Farmers will not treat preventatively when it is not in their economic interest to do so. To achieve national reductions in scab incidence, approaches that give farmers an economic incentive to use preventative treatment will need to be adopted."

These findings show that when it comes to disease control, there is not always one blanket strategy that works for all farmers; tailoring strategies

to specific regions or farms can help to ensure that farmers do not lose out.

More information: Emily J. Nixon et al. Treatment strategies for sheep scab: An economic model of farmer behaviour, *Preventive Veterinary Medicine* (2017). [DOI: 10.1016/j.prevetmed.2016.12.015](https://doi.org/10.1016/j.prevetmed.2016.12.015)

Provided by University of Bristol

Citation: Research from the University of Bristol has developed new insights into how farmers treat their sheep for disease (2017, January 31) retrieved 27 April 2024 from <https://phys.org/news/2017-01-university-bristol-insights-farmers-sheep.html>

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