

A next generation vaccine for louping ill control

Targeting an important disease of livestock and wildlife in Scotland

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Louping ill is a neurological disease caused by the tick-borne louping ill virus. Louping ill primarily affects sheep and red grouse and is associated with high mortality in these species. It is a significant economic problem for sheep farmers and a serious animal welfare issue.



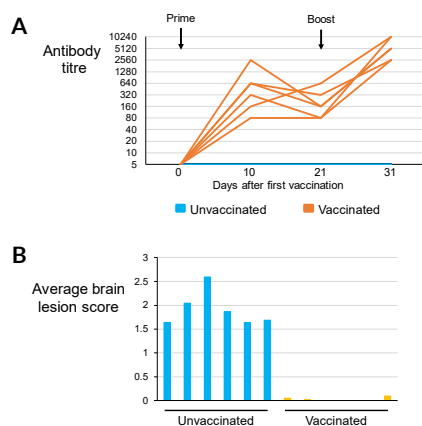
Sheep are highly susceptible to louping ill



The sheep tick (*Ixodes ricinus*) transmits louping ill virus

The development of a new vaccine to control louping ill in sheep was supported by funding from the current (MRI-A2-8) and previous (RD 2.2.5) ENRA Strategic Research Programmes, with additional contributions from Scottish estate owners. We are now working with key industry partners to commercialise the vaccine for registration and sale.

The new louping ill vaccine elicits strong protection under experimental conditions.



Trial data provides strong evidence that the vaccine can help control louping ill in the field:

- The new vaccine is simpler and safer to produce than previous louping ill vaccines
- The vaccine induces high levels of serum antibodies in sheep [A] and prevents the development of brain lesions following infection with live virus [B].

Commercialising the vaccine in 3 phases

Due to the limited market size, a louping ill vaccine is not commercially viable for veterinary vaccine manufacturers.

As an alternative approach to develop the vaccine for registration and sale, we have partnered with Kernfarm, an animal health company specialising in commercialising 'niche' product for veterinary markets.

There are three phases to this strategy:

- 1 Transfer of vaccine production from laboratory to commercial scale, and testing immunogenicity of different vaccine formulations.
 - 2 Additional trials in sheep to ensure the safety and effectiveness of the new vaccine. Data from these trials will be used to prepare a comprehensive regulatory proposal.
 - 3 Submission of the data dossier to the Veterinary Medicines Directorate for market registration and production of the first commercial batch ready for sale.
- £ To fund vaccine commercialisation, we are seeking charitable donations from industry stakeholders for Phases 1 and 2. For Phase 3, we plan to establish a new company, funded by investors, which will manage the commercial sale of the vaccine and post-market analysis.

Scottish Government has generously pledged up to £100,000 in matched funding to boost our campaign.



Brochures used for the fundraising campaign

Supporting testimony from stakeholders and industry partners



Phil Stocker, Chief Executive,
National Sheep Association:

"There are huge expectations on upland sheep farmers to deliver environmental outcomes alongside producing sheep. But there are trade offs, with denser vegetation providing preferential habitat for ticks, and off wintering and resting protected sites sometimes resulting in a breakdown in natural immunity. If we are to succeed, we also need tools to help overcome the problems that emerge. The LI vaccine being developed by Moredun is a good example of this and NSA is desperately keen to see this come to market."



Ross Ewing, Director of Moorland,
Scottish Land and Estates

"Louping Ill Virus is a devastating disease which is wreaking havoc in the Scottish uplands and causing irreparable harm to rural businesses, farms and estates. The development of an effective vaccine by MRI is therefore extremely welcome, and every effort must now be made to bring this vaccine to market. The future sustainability of many rural businesses depends on it."



Ross Macleod, Head of Policy, Game &
Wildlife Conservation Trust Scotland

"Development of a vaccine for control of Louping Ill is an important step forward not just to counter that particular virus, but more widely in combatting other livestock and zoonotic diseases. GWCT is pleased to have played a part in helping to raise funds for the first trials of the LI vaccine."

Ian Duncan Miller, Industry-leading livestock
farmer, Perthshire:

"We are having to manage louping ill with acaricides but worry about their environmental impact, so the vaccine cannot come soon enough."



Hugo Straker,
Independent Game Consultant:

"The brilliant research work being conducted by The Moredun Research Institute has led to the development of this exciting new sheep vaccine, one which should prove a game changer for everyone, including wildlife, impacted by the devastating louping ill virus."



Tim van Rijn, Founder and
Director, Kernfarm

"Kernfarm is proud and excited to work on innovations with and for the livestock industry. By working together we can bring suitable solutions. The LIV project is a result of partnership thinking, which runs through Kernfarm's veins."



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Help bring this new
vaccine to market.
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