Interview

New FMD vaccine to help end losses

Africa loses around $2.3 billion due to Foot and Mouth Disease (FMD) every year, with sub-Sahara shouldering most of this economic burden. In Eastern Africa, where FMD is endemic, outbreaks generally occur in waves every one to two years. The situation is exacerbated when multiple serotypes or strains are present simultaneously. The first quadrivalent FMD vaccine designed for the region was registered recently. It met the Project's Target Product Profile. **Pauline Ongaji** spoke to **Nina Henning**, Project Manager Team Lead at GALVmed, about the potential impacts of the vaccine, especially for smallholder farmers.

GALVmed manages the AgResults FMD Vaccine Challenge Project, an eight-year, $17.34 million Pay-for-Results prize competition, aimed at supporting the development and uptake of high-quality quadrivalent FMD vaccines tailored to the needs of Eastern Africa. How does this vaccine differ from other options?

This vaccine has been developed specifically for the East African context, having undergone rigorous testing against the Eastern Africa FMD virus.

The FMD network conducted a comprehensive analysis of viral infections throughout Africa, identifying the circulating strains in this region.

A reference laboratory determined the local viruses most likely to be encountered, guiding vaccine manufacturers in creating targeted solutions.

Additionally, the vaccine has been validated to ensure its effectiveness against the prevalent serotypes of FMD in the region.

Why is this important?

Foot and Mouth Disease poses a significant challenge due to its diverse serotypes and multiple viral strains, each affecting different animals in unique ways.

This complexity necessitates the creation of tailored vaccines for specific regions.

Vaccines have typically been deployed in response to emergencies rather than for proactive control and prevention in East Africa.

To tackle this, the FMD network has analysed viral infection patterns across the continent, pinpointing the strains circulating in East Africa.

A reference laboratory has isolated these viruses, focusing on those most likely to be encountered locally.

Manufacturers then developed vaccines specifically designed to combat these circulating strains.

By producing high-quality FMD vaccines tailored to local needs and rigorously tested against the Eastern Africa FMD virus, the region can improve its ability to control outbreaks, ultimately enhancing the livelihoods of smallholder farmers and their animals.

How is the vaccine expected to impact livestock health, smallholder farmers' livelihoods and the economies of the target countries, particularly in animal trade?

Foot and Mouth is one of the most infectious livestock diseases worldwide, posing a big threat to animal trade and national economies.

In Eastern Africa, the illness can severely impact livestock productivity, jeopardising food security and the livelihoods of small-scale farmers.

By opting for preventive vaccination, these production losses can be mitigated, as farmers will have their animals protected before the virus spreads.

This shift from reactionary vaccination – administered only during outbreaks – to proactive vaccination will make a substantial difference for smallholders, who often own just two or three animals.

If their livestock fall ill, they risk losing not only their animals but their source of income.

Preventative vaccination helps maintain productivity, representing a major advancement in safeguarding livestock health and the livelihoods of smallholder farmers.

Nina Henning, Project Manager Team Lead at GALVmed. PAULINE ONGAJI I NATION

How easy is it for a smallholder farmer to access this new vaccine?

Smallholder farmers typically do not purchase vaccines directly from manufacturers. There is, instead, a distribution chain that varies from one country to another.

Historically, farmers have accessed the FMD vaccine through government vaccination drives, which have been the primary method across East Africa.

However, these efforts often face budget constraints. To improve access, we encourage private sector involvement in the distribution of FMD vaccines.

We believe that engaging the private sector can enhance vaccine availability and reduce reliance on government budgets.

A portion of the cost has been allocated specifically for private sector distribution to incentivise collaboration with the government, allowing private entities to participate in the purchasing and distribution of the FMD vaccine.

What measures will be taken to monitor the effectiveness and safety of the vaccine after it has been distributed?

As part of our project mandate, we will conduct annual quality verification tests for any approved vaccine.

For the BioPharma vaccine next year, we will retest it against the East African FMDV reference pathogen panel to ensure that the vaccine being produced is consistent with the one tested before registration.

This quality check is a requirement of the Agrisults FMD Challenge Project and is essential for verifying the effectiveness of the vaccine.

Such follow-up assessments are rare internationally, as most FMD vaccines lack ongoing monitoring to determine their effectiveness in endemic countries.

How will feedback from farmers and animal health professionals be incorporated into the programme?

Farmers have an intimate knowledge of their animals and are eager to provide feedback on their health, including disease symptoms.

We will implement participatory epidemiology, allowing farmers to report on whether their animals are protected.

This feedback will be gathered by field operatives and reference laboratories, which we hope to engage as part of the project.

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