

## Mission: To protect livestock from viral attack

09 January 2012 | News



*Funding from the Indian Council for Agricultural Research helped the Indian Veterinary Institute to develop a unique viral vaccine, which was later successfully commercialized by Indian Immunologicals*

**R**esported first in 1989 from Tamil Nadu, Peste des petits ruminants (PPR), also known as goat plague, is a highly contagious viral endemic disease in India. It affects mainly sheep and goats and occasionally small ruminants living in the wild. Since there was no vaccine available in India, it resulted in losses amounting to millions. The only option was to use the attenuated tissue culture rinderpest (TCRP) virus vaccine or vaccine developed by Diallo and others (1989) in France using lineage-I PPR virus, which had major drawbacks.

Meanwhile, the Indian Veterinary Research Institute (IVRI), which is funded by the Indian Council of Agricultural Research (ICAR), developed a live-attenuated homologous vaccine from an Indian strain of PPR virus that is currently prevalent in India. The IVRI, Izatnagar, Uttar Pradesh, undertook the research for the development of vaccine against PPR using a lineage 4 virus isolated in India. The scientists found that the introduction of wild virus (goat -derived virus) in unnatural hosts (vero cells) results in attenuation of the virus.

**S**luggp

It has the ability to induce protection against specific diseases without causing any pathogenicity. The developed vaccine was tried on animals at the laboratory and then at the state level. At a later stage, the technology was transferred to the National research Development Corporation (NRDC) and eventually commercialized to Indian Immunological, Hyderabad.

The NRDC agreement with Indian Immunological was signed during 2004 and 25 lakh was received as licensee fee (70 percent share for the IVRI) with a royalty at three percent for 10 years. Indian Immunological launched Raksha-PPR vaccine

in 2006 and has sold vaccines worth more than 2 crore so far.

### **The way forward**

Currently, there are approximately 60 million sheep and 125 million goats in India. The annual loss due to PPR in the small ruminants (about 200 million) in India is approximately 180 crore. This technology has emerged as a major development in India on animal healthcare sector, with the IVRI making more than 100 lakh in annual sale of the vaccine since 2006.

Mr K V Balasubramaniam, MD, Indian Immunological, says, "The market response has been quite good for Raksha-PPR. IIL currently sells about 15 million doses of this vaccine. The demand for this vaccine will get a boost with the new National Control Programme of PPR to eradicate PPR from the country, initiated by the Government of India on similar lines as the successful Rinderpest eradication programme." "The price of PPR vaccine is about 4 per dose. IIL has an installed capacity to produce 40 million doses of PPR vaccine per annum. Some of the state government vaccine production units, such as Andhra Pradesh and Karnataka also produce PPR vaccine and supply to the adjacent states," added Mr Balasubramaniam.

Being potent, cost-effective and more convenient for field application, the use of PPR vaccine is expected to increase the production of small ruminants and profitability, especially in case of small and marginal farmers. Also, the export of vaccine to neighboring Asian countries where viruses of similar genetic make up are known to circulate, will boost the financial health of companies as well as contribute to the overall economy.

**Rahul Koul** in New Delhi