



## Classical Swine Fever Vaccine

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### Why in News

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The **live attenuated Classical Swine Fever (CSF) Vaccine** technology developed by the Indian Veterinary Research Institute (IVRI) has been released recently.

Live Attenuated Vaccines (LAV) are vaccines prepared from **living microorganisms (viruses, bacteria) that have been weakened under laboratory conditions.**

### Key Points

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- CSF is one of the **diseases of pigs** causing **high mortality** with annual loss of approximately Rs.4.299 billion.
- A **lapinized CSF vaccine** (uses Weybridge strain, UK) has been used in India since 1964 for controlling the disease. The **vaccine is produced by sacrificing large numbers of rabbits** for each batch.
  - Lapinized denotes viruses which have been **adapted to develop in rabbits by serial transfers in this species.**
- The country's total requirements is 22 million doses per year. However, hardly 1.2 million doses are produced per year by the lapinized vaccine.
- In order to do away sacrificing rabbits and increase productivity, IVRI had **earlier developed** a cell culture CSF vaccine by **adapting the lapinized vaccine virus in cell culture.**
  - Cell culture refers to the maintenance and growth of the cells of multicellular organisms **outside the body in specially designed containers** and under **precise conditions of temperature, humidity, nutrition, and freedom from contamination.**
- Since the cell culture vaccine is from a **foreign strain** (Weybridge Strain, UK), IVRI has further developed **a new CSF Cell Culture Vaccine by attenuating an indigenous virulent CSF virus in cell culture.** The vaccine virus has a **very high titre (concentration)** and lakhs of doses can be produced very easily in cell culture and the country's requirement can be easily fulfilled using this new vaccine.

- Due to the very high titre of vaccine virus, this vaccine would be the **most economical CSF vaccine**.
- Besides, the new vaccine **gives immunity for two years** as compared to 3 to 6 months protection under the vaccines currently being used.

### **Indian Veterinary Research Institute**

- IVRI is the **Indian Council of Agricultural Research (ICAR)** institute.
- Established in 1889, IVRI is one of the premier research institutions dedicated to livestock research and development of the region.

**Source: PIB**