

6. Live Attenuated Classical Swine Fever Vaccine (IVRI-CSF-BS)

Prelims Level: Medicine & Pharmaceuticals

Mains Level: GS-III Issues relating to Development and management of Social Sector or Services relating to Health, Education, Human Resources.

Why in News?

- IVRI releases live attenuated Classical Swine Fever (CSF) cell culture vaccine (Indigenous strain).

Highlights:

- Classical Swine Fever (CSF) is one of the Most Important Diseases of pigs causing high mortality with an annual loss of approximately Rs. 4.299 billion.
- A lapinized CSF vaccine (Weybridge strain, UK) is being used in India since 1964 for controlling the disease. The vaccine is produced by sacrificing large numbers of rabbits for each batch.
- Lapinization refers to the weakening or modification of a virus or vaccine by its serial passage through rabbits.
- The country's total requirement is 22 million doses per year and hardly 1.2 million doses are produced per year by the lapinized vaccine, as only 50 doses are produced from a single rabbit spleen.
- In order to do away with the sacrificing of rabbits and increase productivity, IVRI had earlier developed a cell culture CSF vaccine by adapting the lapinized vaccine virus in cell culture.
- 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 very high titre 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.
- The new vaccine is ready for release and commercial production will be completed in less than a year.
- The new vaccine will be part of the Government's One Health Initiative and result in huge savings as it will nip the spread of the virus at the animal stage so that it does not pass on to the human population.

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- Due to a very high titre of vaccine virus, this vaccine would be the most economical CSF vaccine costing around less than Rs 2/- per dose as against Rs 15-25/- of lapinized CSF vaccine and Rs.30/dose (approx.) for an imported Korean vaccine being used in the country.
 - Besides, the new vaccine gives immunity for two years as compared to 3 to 6 months of protection under the vaccines currently being used.
 - The vaccine is safe, potent, does not revert to virulence and provides protective immunity from day 14 of the vaccination until 24 months studied so far.
 - The vaccine has been tested on around 500 pigs at multiple locations.
 - The new vaccine has been developed by a team of IVRI scientists.

Indian Veterinary Research Institute (IVRI):

- Established in 1889, the Indian Veterinary Research Institute (IVRI) is one of the premier research institutions dedicated to livestock research and development of the region.
- It is under the administrative control of the Indian Council of Agricultural Research (ICAR), New Delhi.
- IVRI is located in Izatnagar, Bareilly in UP.

