Harit Dhara

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In news- An Indian Council of Agricultural Research (ICAR) institute has developed an **anti-methanogenic feed supplement** 'Harit Dhara'.

Key updates-

- Methane's **global warming potential is 25 times that of carbon dioxide (CO2)** over 100 years, making it a more potent greenhouse gas.
- Methane is produced by animals **having rumen**, where the plant material they eat like cellulose, fibre, starch and sugars gets fermented or broken down by microorganisms prior to further digestion and nutrient absorption.
- Carbohydrate fermentation leads to production of CO2 and hydrogen that are used as substrates by archaea, the microbes in the rumen which produce methane.
- This gas is then released through these animals' flatulence, when they belch, or through their manure.
- **Tropical plants containing tannins** – bitter and astringent chemical compounds are known to suppress or remove protozoa from the rumen.
- Harit Dhara has been prepared using condensed and hydrolysable tannin-rich plant-based sources which acts by decreasing the population of protozoa microbes in the rumen.
- It also changes the composition of the volatile fatty acids that are the end-products of rumen fermentation (along with hydrogen and CO2).
- An average lactating cow or buffalo in India emits around 200 litres of methane per day.
- Feeding Harit Dhara not only **cuts down their methane emissions by 17-20%**, but also results in **higher milk production and body weight gain.**