

Mastitis disease

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In news– Utilising indigenous knowledge systems shared by a farmer from Gujarat, a poly-herbal and cost-effective medicine has been developed to treat Mastitis disease.

Mastirak Gel-

- **National Innovation Foundation (NIF)**, which reinvigorates indigenous technologies based on farmer's wisdom, has identified this **unique herbal composition shared by a farmer from Gujarat for control of mastitis among farm animals**.
- A gel preparation has been developed for topical application over the affected udder surface, and a **patent has been filed for this composition shared by Shri Becharbhai Samatbhai Devgania**.
- It was found that the **medication could minimize Somatic Cell Count (SCC) and improve the udder health**.
- The polyherbal medicine reduced inflammation which is detrimental to the udder.
- **This critical analysis of the indigenous knowledge system led to development of value-added commercial product Mastirak** with the support of industry partner Rakesh Pharmaceuticals.
- Dairy owners in eight states of the country – Gujarat, Rajasthan, Haryana, Madhya Pradesh, Kerala, Karnataka, Maharashtra, and Chhattisgarh have benefited by adopting Mastirak-anti mastitis herbal medication.

It **has reduced the use of antibiotics** and helped in the cost-effective management of the disease.

About Mastitis disease-

- It is an **infectious disease of dairy cattle**.
- Bovine mastitis is a condition typified by the

persistent and inflammatory reaction of the udder tissue due to either physical trauma or infections caused by microorganisms.

- **The most obvious symptoms of clinical mastitis are abnormalities in:** The udder such as swelling, heat, hardness, redness, or pain.
- The milk has a watery appearance, flakes, clots, or pus.

What is Somatic Cell Count (SCC)?

- A somatic cell count (SCC) is a cell count of somatic cells in a fluid specimen, usually milk.
- Primarily, **SCC is composed of leukocytes, or white blood cells**, that are **produced by the cow's immune system to fight an inflammation** in the mammary gland, or mastitis.
- Ideally, an individual cow cell count should be between 100,000 and 150,000.
- In dairying, the **SCC is an indicator of the quality of milk**—specifically, its low likeliness to contain harmful bacteria, and thus its high food safety.
- White blood cells (leukocytes) constitute the majority of somatic cells in question.

The number of somatic cells increases in response to pathogenic bacteria like **Staphylococcus aureus**, a cause of mastitis.