



MAST-D

Mastitis Detector

The outcome of an R&D project titled 'Electronic Platform to Monitor Cattle Health and Milk Quality' under 'National Programme on Electronics and ICT Application in Agriculture and Environment (AgriEnIcs)' implemented by C-DAC-Kolkata, IIT Kharagpur, ICAR-NDRI, Kalyani, funded by the Ministry of Electronics and Information Technology (MeitY), Govt. of India

Mastitis, a major dairy industry concern, is an inflammatory udder condition caused by trauma or microorganisms, impacting milk quality and yield. Early detection is vital to prevent economic losses and health risks for cows. Due to the unavailability of any low-cost Mastitis Detector for common people or farmers, Our team have developed a simple and low-cost device for common people/farmers that works on the principle of ionic concentration measurement by a biocompatible polymer-coated electrochemical sensor.

Features

- Low-cost field-portable device.
- A standalone Battery-operated, handheld, and lightweight device.
- No chemical is required during the operation.
- No technical knowledge is required for users.

Experimental Validation

- The device deployed multiple times at ICAR-National Dairy Research Institute and ERS, Kalyani.
- Conducted five sets of experiments.
- Achieved a 90% match with conventional methods (CMT and somatic cell counter).
- Tested in local villages of District-Nadia, West Bengal.
- Used during village awareness camp.
- Obtained satisfactory results.



Beneficiaries

Dairy Farmers, Veterinarians, Dairy Cooperatives, Agri-Tech Entrepreneurs