Describing Body Temperature Changes Associated with Systemic Inflammation
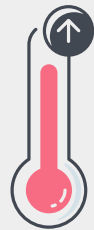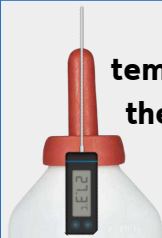
The Problem

Pre-weaned calves get sick with a wide range of syndromes, and identification and diagnosis of affected individuals can be challenging in large group settings. Due to the inflammation caused by these diseases, many calves develop a fever.

The Solution

Detectable differences exist in the body temperatures of healthy and diseased calves, and oral temperature may be a good indicator of body temperature and inflammatory status. Oral temperature sensors embedded in a feeding nipple will allow convenient, safe, low-stress and continuous monitoring of body temperature.

The Investigation

Oral temperature data will be collected in parallel with rectal temperatures via sensors embedded into a feeding nipple and probe thermometers. Daily health scores, biomarkers of inflammation, and environmental conditions will be measured alongside of the oral and rectal temperatures to determine associations.

The Goal

In synergy with other health monitoring systems, oral temperature data will enable quick, automated prediction of health and inflammatory status, early detection of a multitude of disease syndromes, prompt intervention of care, and monitoring through their recovery.