Mastitis Detection using Infrared Thermography

Researchers at the University of Manitoba have been exploring the possibility of using infrared thermography as an automated, rapid method to detect mastitis. Here’s how it might work:

- Mastitis infections cause udder surface temperatures to rise, often before other clinical signs are observed. In experimentally-induced mastitis, a rise of 2.3°C was recorded.
- Cows would parade past an infrared camera which would photograph the rear of their udders.
- The camera and its associated computer would identify and record the ID of cows whose udder surface temperatures were higher than normal.
- Herd management would follow up with further assessment and possible treatment of cows flagged by the system.

Initial development of the system has focused on accounting for the effects of environmental and normal body temperature variations on udder surface temperature. As shown in the graph, the researchers have been able to very accurately predict normal diurnal changes in udder surface temperatures.

source: Alma Kennedy, University of Manitoba