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Optimizing Robotic Milk: A Qualitative Research Approach to Understanding Challenges that may Inhibit Optimal Usage of Automatic Milking Systems in Northern Utah

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Optimizing Robotic Milk

A Qualitative Research Approach to Understanding Challenges that may Inhibit Optimal Usage of Automatic Milking Systems in Northern Utah

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Introduction

Automatic Milking Systems (AMS) – or robotic milkers – have been on the market for over twenty years. However, AMS introduction is relatively new to the Western U.S., and requires challenging adjustments and new management systems.

Hypothesized problems include:

- Introduction of computerized technology
- Amount of data received from robots
- Adjusting to managing cows and AMS
- Developed apathy due to robot's capabilities

In short, the research question: Do dairy farmers face challenges integrating AMS into their production systems?

Challenges

1. Unfamiliar with computerized technology and smartphones; immense amount of data collected and presented by the robot

2. Farmers don't spend as much time observing the cows – possible disconnect from the cows behind the numbers

3. Somatic cell devices and rumination collars add more variables and data in the pool

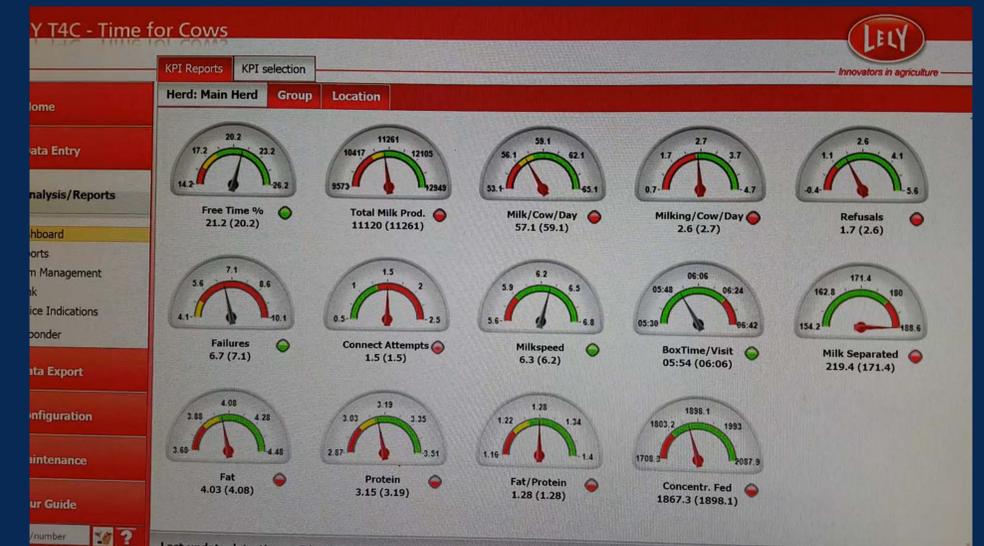4. Training cows to adjust to being milked by a robot milker

Solutions

1. In addition to support from AMS companies and distributors, Extension can hold training workshops on computerized technology

2. The robots collect over 100 variables on each cow – the reports are the link to the cows with exact information

3. This provides more information for farmers and Extension agents on cow health and reproduction status

4. Extension agents can suggest alterations to cow traffic (free vs. forced) and dispensed feed

Figure 2 – The Software

Key Performance Indicators (KPI) from Time for Cows (T4C), the computer software for the LELY Astronaut.

Figure 1 – The LELY Astronaut

View from the backside— "screen side"—of the LELY Astronaut, an AMS, showing the arm going underneath the cow, preparing to attach the cups post cleaning.

Results

Although AMS companies and local dairy technology and systems companies may have famer support systems in place that assist farmers, it is critical that Extension agents are aware of and understand those systems. In addition, Extension agents should have their own strategies in place to assist farmers with AMS, or to understand the management and operations of dairies with AMS.

Conclusion

Based on preliminary research, Automatic Milking Systems have increased production, efficiency, and cow health; however, dairy farmers still face challenges optimizing their systems, and Extension agents lack adequate information or training regarding AMS to adequately assist dairy farmers.

A publication from this project will help Extension agents understand issues and opportunities with AMS technology from a user perspective, and, thus, effectively assist farmers.