

Optimal Strategies to Relieve Tissue Congestion

Client: Doug Reinemann, Ph.D

Team Members: Chelsea Wanta (Co-Leader)

Tony Schuler (Co-leader)

Emily Andrews (Communicator)

Steve Welch (BSAC)

Tyler Vovos (BWIG)

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Problem Statement:

To design a new and efficient milking machine teat-cup attachment and pressure system. Current milking devices on the market often cause tissue congestion problems in cows, which can lead to hyperkeratinization and infection. The new attachment must use vacuum to draw milk out while providing simultaneous compression of the teat to better reduce tissue congestion in the teats themselves. Standard milking machines use a pulsation effect to reduce tissue congestion during the milking process, however, the new device can also utilize post milking massaging for congestion reduction. The attachment must also milk at speeds comparable to current milking devices.

Last Week's Goals

- Continue fine tuning our design
- Start getting materials to build design

Summary of Accomplishments

- Met with Dr. Reinemann to see milk cows
- Went to Milking lab to find equipment to build our design
- Wrote up and experimental design for measuring tissue congestion relief

This Week's Goals

- Go over experimental design with Dr. Reinemann
- Build prototype and set-up the experiment

Project Difficulties

- Figuring out what vacuum pressure to keep the attachment at so it does not fall off while still providing a good level of congestion relief
- Setting up a working prototype in the milking facility

Activities

- The group went to the milking facility to see the set-up and see how milking machines work

