Robotic Milking Systems
Part 4: Starting Up a New RMS Facility
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One of the most crucial parts of switching a farm to a robotic milking system (RMS) is the startup. During startup the cows are trained on the robot, cow flow is confirmed (should be done during design), robots are trained to each individual cow, robot settings are refined, and most importantly farm management is trained.

Training cows to RMS can take 3 weeks to 3 months and typically isn't a fond memory of most farmers. The rule of 3's is very helpful in outlining what to expect in a RMS startup. Outlining what should be expected in the first 3 days, 3 weeks, and 3 months.

The First 3 Days

The first 72 hours of start-up and is the length of time you will go with little to no sleep. For the first few days a minimum of two people need to be available per robot to guide the cows and manage the robot. After two or three days, it is often sufficient to have one person per robot.

When starting with robotic milking, it is recommended to start with 80% robot capacity (45-50 cows). For the first three days, the cows are enticed into the robot three times a day. This should be done in a very calm and patient manner, to prevent the cows from having a negative association with the robot. Within these three days, 75% of the cows will go to the robots on their own.

Training cows on robots can be difficult the first time through. It is often recommended to hire an expert to help with this transition as it will determine how well the robots are integrated on-farm. Knowing how to train the cow to move to and use the machine, understanding the controlling software and reading cow and production reports is where the adviser's knowledge is critical.

If the startup isn't done correctly, it can be very difficult to break bad habits that are inadvertently begun. If the cows are trained improperly, the herd mates will pick up on those bad habits and weeding those out can be difficult and hurt robot efficiency. Some common errors in training can cause undesired behavior in the herd such as leaking in the stall, dancing in the stall, and creating a need to collect cows. A bad experience will impact how the herd reacts to human interference after installation.

Cows are a herd animal. They will follow the example of the other cattle around them. This is an important training tool, as well as potential problem to be aware of. When starting new cows on the robotic system, having another cow lined up and near the RMS watching can help the next cow feel more at ease in entering the pen as shown in Figure 1.

Figure 1. A cow waiting in a holding area during the first day of a RMS startup.

Cows are enticed to visit the RMS due to the feed, not because of udder pressure. Feed should be palatable so that cows want to visit the RMS.

The First 3 Weeks

Things are starting to fall in place, most of the bugs are worked out of the system, you've learned which alarms on your phone are important and which are urgent, but you still may not be fully convinced that you made the right decision.

After the startup period, farmers will typically have some cows that are fully trained in only a few visits but others that will require fetching and further training time past the initial startup point. The number of times the cows are fetched is gradually reduced to twice a day, fetching only the cows with a milking interval of more than 12 hours.

This start-up procedure decreases waiting times and assures proper intake of dry matter (DM) and water. Collecting too many cows too soon results in low ranking cows waiting until they are collected. These cows will consider the robot as a crowded and dangerous place. Hence, they will wait until they are collected by the farmer. This stresses the importance of remaining calm and patient the first weeks and to follow manufacturer recommendations on collecting cows.

The First 3 Months

You have the system pretty well dialed in. You can take a deep breath now. You can have a date night with your spouse or go to a child's ballgame/concert/play, just don't forget your smartphone! The training process is one that will occur with the introduction of any new cow. After dry off, cows are already adapted to the RMS, but fresh heifers will need to be trained which can take anywhere from one week to months to accomplish.

A good, consistent fresh cow training program can also significantly reduce the number of fetch cows. This means getting that fresh cow through the robot at least three times per day for the first 5-7 days. Heifers should be introduced to the gating system, and robots, if possible, prior to freshening. They need to learn that it is okay to push on some gates especially those leading to or from the robot. After freshening, limit fetching of heifers less than 5 days in milk to only 2 times per day.

Cross train your staff on the various parts of the system. No one person should hold all the knowledge of how the RMS works and what to do if it doesn't. Any good coach will tell you that you need to build depth in your team, so if anyone is on injured reserve or vacation someone else can jump right in.

Alternatives

Switching to an RMS doesn't have to be all or nothing. In fact, switching in a group-by-group manner will make the transition easier while also taking some pressure off the existing system. This may get you a few more years out of that aged parlor, and give you a way to milk the older cows who are more likely to refuse the RMS. In smaller herds the group-by-group manner may not be an option. However, starting with a small group of early lactation cows and then adding to the group as cows freshen in may work better.

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