VALACTA – Dairy Production Centre of Expertise

A new report for robotic milking farms

Benchmarking among robotic milking herds to improve production!

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Milking robots provide a wealth of information that can be used to improve production and herd management. However, benchmarks are also quite useful as they allow robotic milking farms to compare their herd results with other operations using milking robots and with the average for dairy farms in general. This will soon be possible thanks to Valacta's newest report, PRODUCTION AND FEED – Robot test.

In Quebec, there are currently more than 600 robotic milking dairy farms, and many more are in the process of transitioning to robots or plan to do so in the near future. How are these farms performing relative to one another? Until now, an accurate answer to that question was hard to come by. Regardless of the brand, milking robots provide valuable information for herd management. However, benchmarking and data comparison among similar operations is key to improving performance. While aggregating robotics data with milk recording data, this new herd management tool will soon be available to dairy producers using robotic milking systems.

1 Robot data

The robot provides a multitude of data for each cow, which may vary considerably from one milking to the next. To draw any conclusions about herd performance, it's a good idea to step back and look at the larger picture. To reduce the effect of daily fluctuations, the results are presented on a seven-day basis. The first column presents the results of the day, which can then be compared with the next two columns: the 12-month average for the farm and the average of all robotic milking farms in Quebec enrolled in milk recording. The 12-month average is calculated as of the second test, and then on a 12-month rolling basis. Once a critical mass of data has been compiled, the provincial average for robotic systems will be made available. The data presented in this section refer only to robotically milked cows.

2 General herd data

The first section of the report presents data for all the cows in the herd. Any cows milked with a milking system other than the AMS will be included in this data but will be excluded from the robot data. This first section of the report presents key data for the whole herd and includes some new criteria:
- Peak milk (kg)
- Days in milk at peak (Peak DIM)
- % of cows removed from the herd over 12 months for SCC issues (udder health)
- % of cows removed from the herd over 12 months due to foot problems (feet and legs)

This section presents test-day results as well as three comparative levels: the 12-month herd average, the provincial average for robotic milking herds, and the provincial average for all herds.

3 Feed cost

A robotic milking system is a significant investment for a dairy operation, so it is important that the report include an economic component. Feed cost needs to be measured and compared among farms. The portion of the feed cost related to concentrates is of particular interest, since concentrates are often purchased off-farm.

Milk value per robot

An additional value that now appears in the feed cost section is the milk value per robot, calculated from the robot's production data. This is also a different way of calculating per-robot productivity. The value is calculated on the basis of the average monthly milk price, which varies from month to month.

The right-hand section of the new report includes graphs.

4 Fat per robot per day (kg)

Robot productivity can be quantified in a number of ways, but the most common measurement is the number of kilograms of fat per robot. Since the producer's milk quota is also based on the number of kilograms of fat per day, this parameter makes it easier to see how much quota is produced by the robotic milking system. It also provides a common basis for comparisons between breeds. Comparing Jersey herds to Holstein herds on the basis of milk production would put Jerseys at a disadvantage, whereas a kg-of-fat basis levels the field, since there are herds of all breeds producing over 80 kg of fat per robot.

5 Number of milkings and number of refusals

This graph can be used to monitor changes in these two parameters on a yearly basis, making it possible to link them to other robot parameters. For example, if milk production has increased considerably since adding extra cows to the herd, it would be unsurprising to see a drop in the number of refusals, and possibly the number of milkings as well.

6 Feed cost graphs

It's good to have the numbers, but seeing the trends on a yearly basis is even better. The graphs allow us to easily draw conclusions on the variations in the milk value and especially on the margin.

This new tool, designed specifically for robotic milking producers, is a first step towards using data from automated milking systems. Don't hesitate to consult your technician or adviser to learn more about this tool and Valacta's specialized AMS services, which include:
- *Start-up support*
- *Strategic advice for your transition or construction project*
- *Strategic advice in robotic milk production*
- *Ori-Collector rental for milk recording*
- *AMS data transfer with Ori-Automate software.*

Overview of the new performance and feed robot report, general information on robotic milking herds