



Herd Summary Dashboard

User Guide

TABLE OF CONTENTS

General Information	2
About	2
Dashboard Navigation.....	2
Troubleshooting.....	5
Overview of the Six Dashboard Tabs	
1. SUMMARY Tab.....	6
2. PRODUCTION Tab.....	7
3. ECONOMICS INDICATORS Tab.....	8
4. UDDER HEALTH Tab.....	9
5. REPRODUCTION Tab.....	10
6. LONGEVITY AND EFFICIENCY Tab.....	11
Glossary.....	12
Qualitative, Color-coded Indicator Thresholds.....	16

Herd Summary Dashboard

General Information

About

The *Herd Summary* dashboard groups together key performance indicators to provide a quick overview of the evolution of a herd's performance according to:

- Variations in herd performance over the course of the last two milk recording tests;
- A qualitative evaluation of indicators using color coding for each value (green, yellow, red);
- Visualizations to monitor the evolution of herd performance over time;
- Personalization of *benchmarks* for Canadian herds registered on milk recording;
- Data grouping according to six thematic tabs: Summary, Production, Economic Indicators, Udder Health, Reproduction, Longevity and Efficiency.

Scheduled Data Update

The data is updated every two hours and the Herd Summary will use the most up to date information.

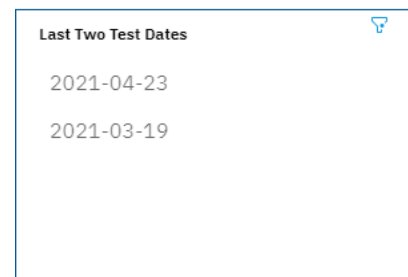
Security

The user has secure access to the dashboard and different levels of access can be authorized based on the type of user, such as:

- The owner of the herd;
- Lactanet advisors/technicians for the herds they have been assigned to;
- Farm advisors and collaborators, with the client's prior authorisation.

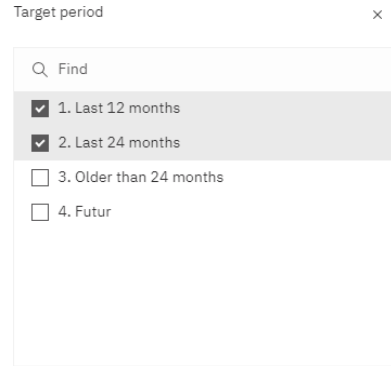
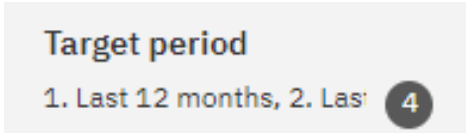
Dashboard Navigation

- Browser requirement: The Dashboard works on most updated versions of a variety of browsers (i.e. Microsoft Edge, Google Chrome). Internet Explorer is not recommended.
- Currently, the Dashboard within MySite is not mobile responsive due to the smaller screen, but we are working on a friendlier version for our next update!
- Hovering over any data point with the cursor will display a tooltip with specific information about the viewed data.
- This section displays the dates of the last two tests. In this example, the last test took place on April 23, 2021 and the previous test was on March 19, 2020. Clicking on any of the two dates will not have an impact on the data shown on the Dashboard.



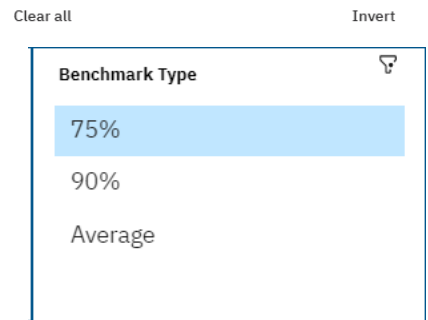
- **Target Period**

Select the filters that apply to the dashboard tabs by clicking on the filter name. Check the desired values and click OK:

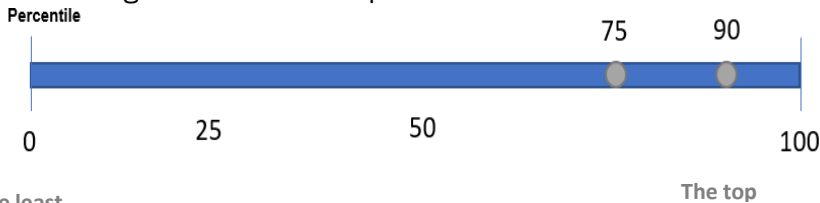


- **Benchmark Type**

The Benchmark Type filter allows you to sort herd performance according to all of the herds in a province or a breed. The user can choose to apply one of three benchmark levels (75%, 90% or Average) where this feature is available. The dashboard displays the 75% benchmark level by default (highlighted in blue).



The image below illustrates percentiles:

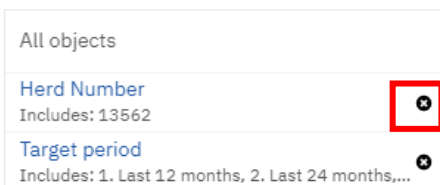
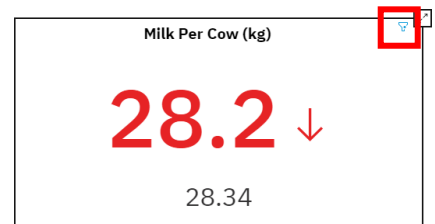



The benchmarks related to production performance are established according to the dominant breed in the herd when more than 75% of the cows are the same breed. If the herd does not have a dominant breed, the benchmark uses the average for the criteria for all of the combined breeds in a given province.

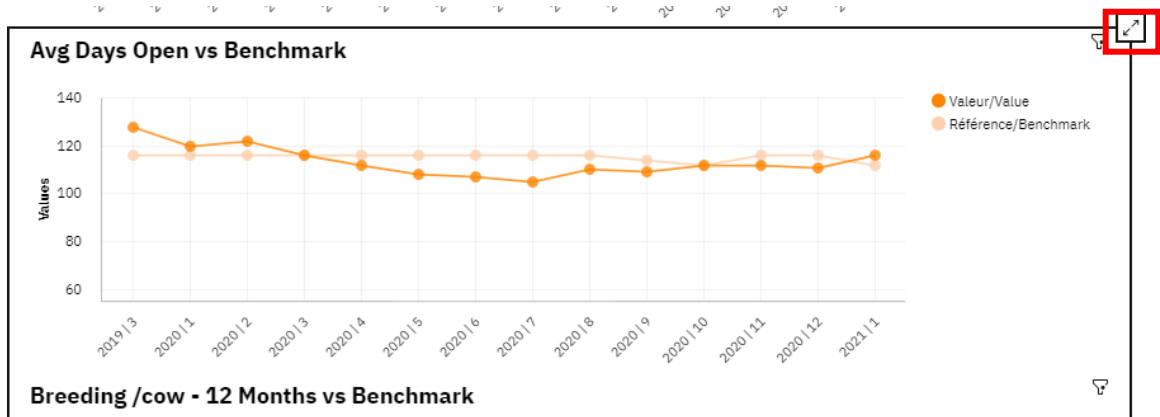
There must be at least five herds of a given breed in the province for the benchmark to be calculated. For breeds with less than five herds, the national values for the breed are used in the benchmark.

Most benchmarks for health and reproduction group all herds in a given province, without reference to breed. Age at first calving is the only criteria for which the benchmarks considers the breed average within a province.

- Click the **funnel** at the top right of the indicator to see the filters that have been applied.
- To remove a filter, click on the **X**. We do not recommend removing a filter in the funnel as it may remove the filter for all charts. In case you delete a filter by mistake, click on **undo** (or Ctrl + Z).



- To enlarge the graphic you want to view, click on the  icon on the top right corner, as indicated in the example below.

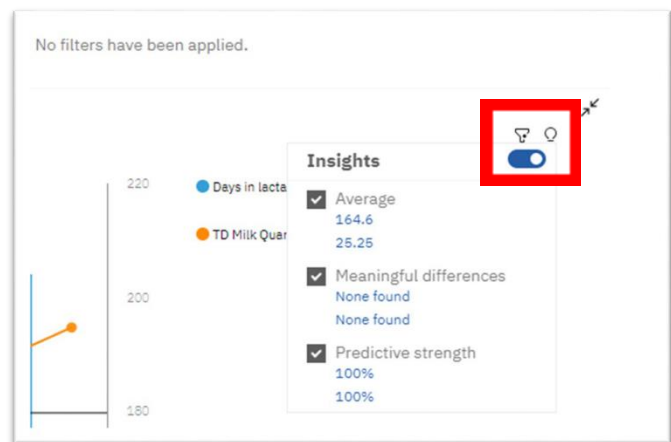


- By holding down the “Ctrl” key of your keyboard, it is possible to choose multiple points or columns on the graph, as well as multiple options in the filter.
- Click on the lightbulb icon to list a summary of information. Details are provided in the corresponding tooltip and you can further customize.
- Depending on the customization, the following information will be displayed:

Average: Provides the average of the displayed target value.

Predictive Strength: Displays the predictive strength of the relationship between the target and the explanatory fields.

Meaningful Differences: Displays the most significant values above or below the mean or trend.



Troubleshooting

Here are a few suggested solutions for the following problems:

Problem	Solution
The indicators are not showing a value.	Make sure you have selected the first box in the “Target Period” filter.
The top left indicator does not display any of the last two test dates.	Make sure you have selected the first box in the “Target Period” filter.
A graph displays only one data value for a given test.	By clicking on the funnel icon, check if a date has been entered by mistake.
No data displayed in one or more graphs.	First, make sure you have the data for the performance criteria. Then check if a benchmark has been selected.
The lines representing the benchmarks are not well displayed in the graphs.	Click on the funnel icon to check if one or more benchmarks have been selected by mistake.
Dashboard display seems incomplete or to be missing some components.	This situation may occur if you are using <i>Internet Explorer</i> . Consider using other browsers such as <i>Microsoft Edge</i> or <i>Google Chrome</i> to optimally display the dashboard.

Overview of the Six Dashboard Tabs

1. SUMMARY Tab

The SUMMARY tab displays the dates of the last two tests as well as the following six performance indicators: Fat per Cow (kg), Milk per Cow (kg), SCC/ml (000's), MUN (mg N/dl), Projected Calving Interval (days) and Longevity (% of herd in 3rd lact. +)



The indicators are made up of two values if they were generated for each test: the first value (in color) is the herd's result for the most recent test whereas the second value (in black) is the result from the previous test.

Fat Per Cow (kg)
1.42 ↓
 1.43

For the production criteria, **values** from the most recent test are displayed in color and accompanied by an arrow. These values indicate the trend for this criterion since the previous test. There are three possible display options:

Value	Symbol	Explanation
Value in Green	↑	The value has increased as compared to the last test
Value in Red	↓	The value has decreased as compared to the last test
Value in Black	No Arrow	The value is stable

For the other management criteria, the **values** from the most recent test are displayed in color, according to the following code:

	Satisfactory/Superior
	Borderline/Room for Improvement
	Needs Improvement

The value below is an example of a Urea value (mg N/dl). This index is not accompanied by an arrow and will be displayed according to the color codes, using the optimal values for this index.

MUN (mg/dl)
11.7
 8.9

A color-code reference table is available on page 16.

2. PRODUCTION Tab

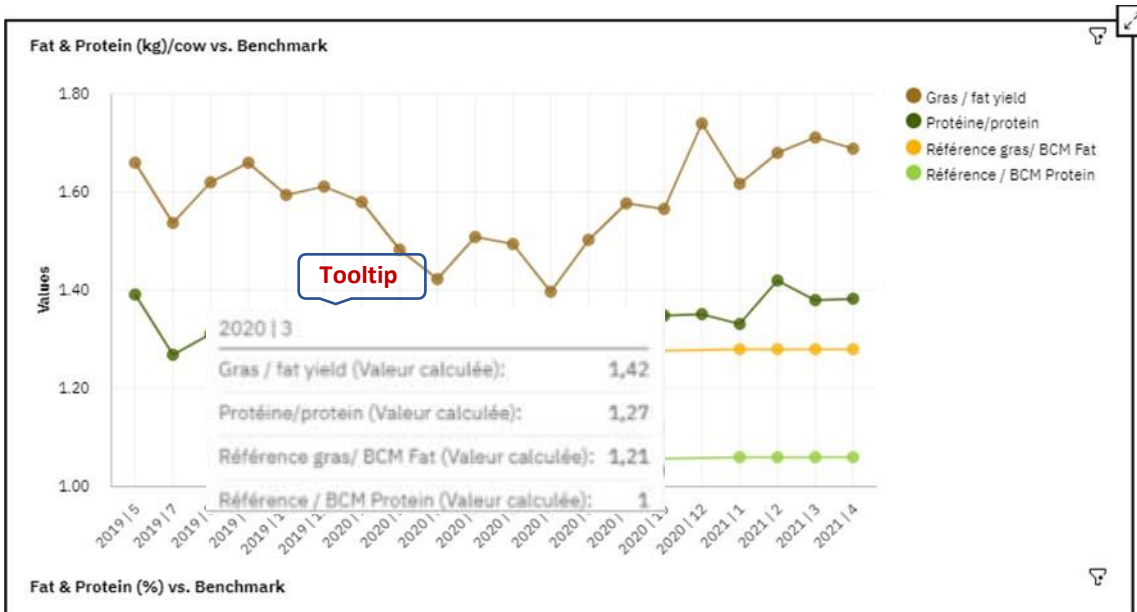
Summary Production Economic Indicators Udder Health Reproduction Longevity and Efficiency

Under this tab, you will find:

Five performance indicators	Five performance monitoring visualizations
<ul style="list-style-type: none"> ✓ Annual Milk (kg) ✓ Standard Milk (kg) ✓ Fat (%) ✓ Protein (%) ✓ DIM 	<ul style="list-style-type: none"> ✓ Annual Milk (kg) vs. Benchmark ✓ Standard Milk (kg) – TD vs. StandardMilk (kg) - 12 months ✓ Milk/cow (kg) vs. DIM ✓ Fat and Protein (kg)/cow vs.benchmark ✓ Fat and Protein (%) vs. Benchmark

Line Graphs

- The visualizations under the production tab are mainly line graphs. They show the evolution of the results over a period of up to five years.
- The horizontal axis displays the month and year of the test.
- The vertical axis displays the values of the performance indicators according to the legend on the right.
- The line graph has a feature that can display the results of all of the measurements simultaneously in the same tooltip for a given month. To do this, place the cursor on one test month at the bottom of the graph.

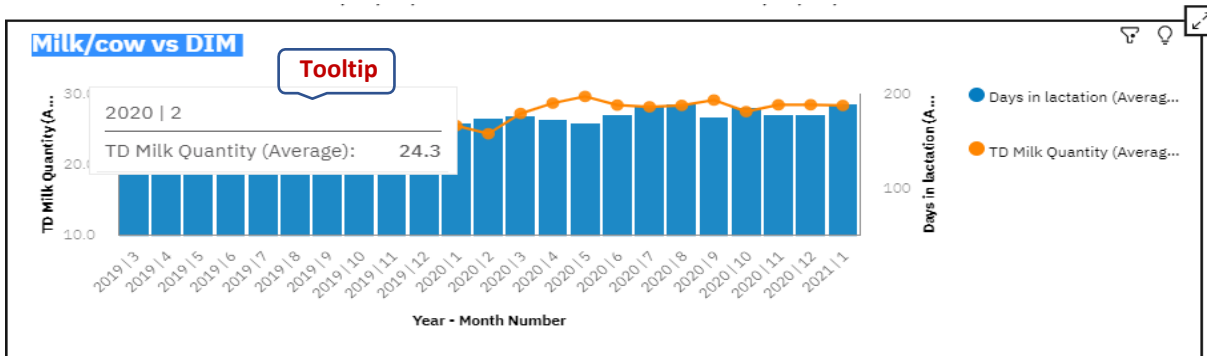


Column and Line Graphs

The *column and line* graphs are used to show the evolution of days in milk (column) as compared to milk/cow (kg) on test day (line).

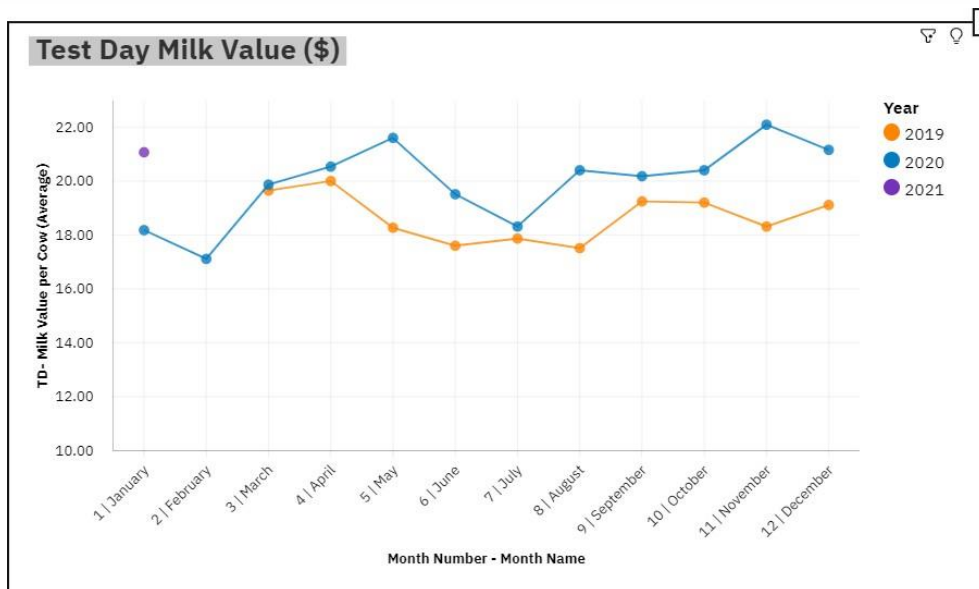
- The horizontal axis (bottom) displays the test year and month.
- The vertical axis (left) displays a scale for milk/cow (kg) on test day. The minimum value that can be displayed is 10 kg.
- The vertical axis (right) displays a scale for days in milk. The minimum milk value that can be displayed is 50 days.

Placing the cursor on a column or a point on the line displays a tooltip with the results from that test.



3. ECONOMICS INDICATORS Tab

This tab has an indicator and a graph for Annual Milk Value (\$) per cow in the herd. A second graph displays the milk value (\$) for each test day according to the target period.



4. UDDER HEALTH Tab



Under this tab, you will find:

Four performance indicators	Two performance monitoring visualizations
<ul style="list-style-type: none"> ✓ SCC/ml (000's) ✓ Linear Score ✓ Cows SCC >200(number) ✓ Cows SCC >200 (%) 	<ul style="list-style-type: none"> ✓ SCC/ml (000's) vs. Benchmark ✓ Cows SCC <=200 vs.Cows SCC >200(%)

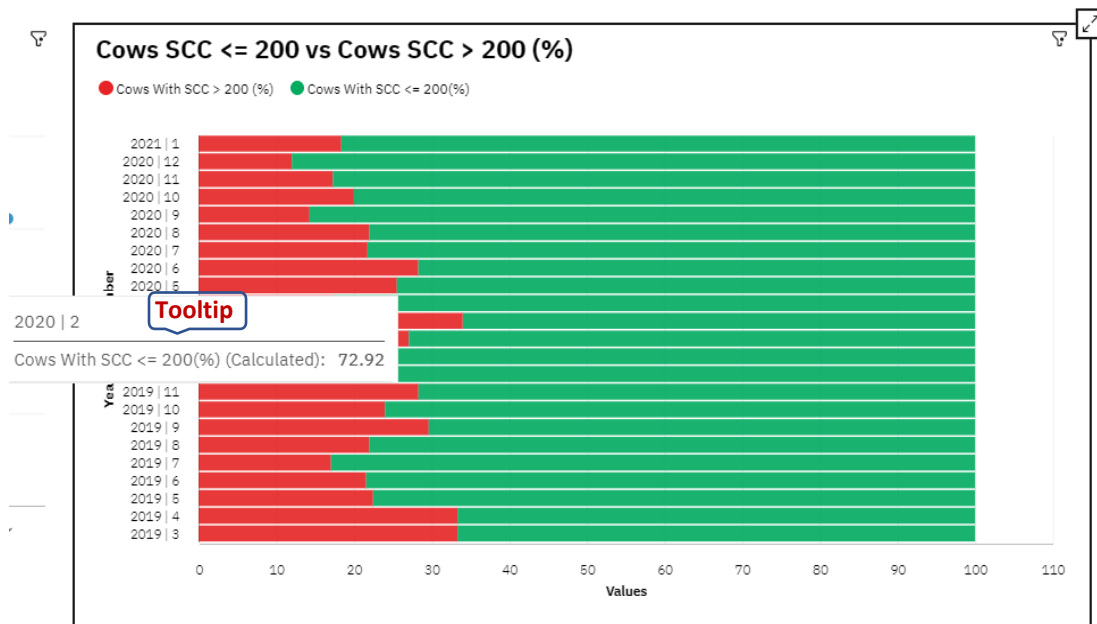
The Cows SCC >200 (number) criteria indicates that lower values are favorable (arrow pointing down in green). The data from the Cows SCC >200 (%) criteria uses qualitative values according to a color code (green, yellow, red) the reference table can be found on page 6.

Overlapping Bar Graph

The overlapping bar graph indicates the proportion of cows with SCC >200,000 as a percentage (red bar) and the proportion of cows with SCC<=200,000 as a percentage (green bar).

- The horizontal axis displays the test year and month in decreasing order.
- The vertical axis displays the percentage of cows with SCC >200 (red portion) and the percentage of cows with SCC<=200 (green portion).

This type of graph allows you to follow the variation in performance when the sum of the values is 100%. Moving the cursor over the graph will display a tooltip with the precise value of the data.



5. REPRODUCTION Tab



Under this tab, you will find:

Four performance indicators	Six performance monitoring visualizations
<ul style="list-style-type: none"> ✓ Days at 1st Breeding ✓ Calving Interval (days) ✓ Days Dry ✓ Age at 1st Calving (mo.) 	<ul style="list-style-type: none"> ✓ Days at 1st Calving vs. Benchmark ✓ Average Calving Interval vs. Benchmark ✓ Days Open vs. Benchmark ✓ Days Dry vs. Benchmark ✓ Breedings/cow - 12 months vs. Benchmark ✓ Age at 1st Calving - 12 months vs. Benchmark

Column with Reference Line Graph

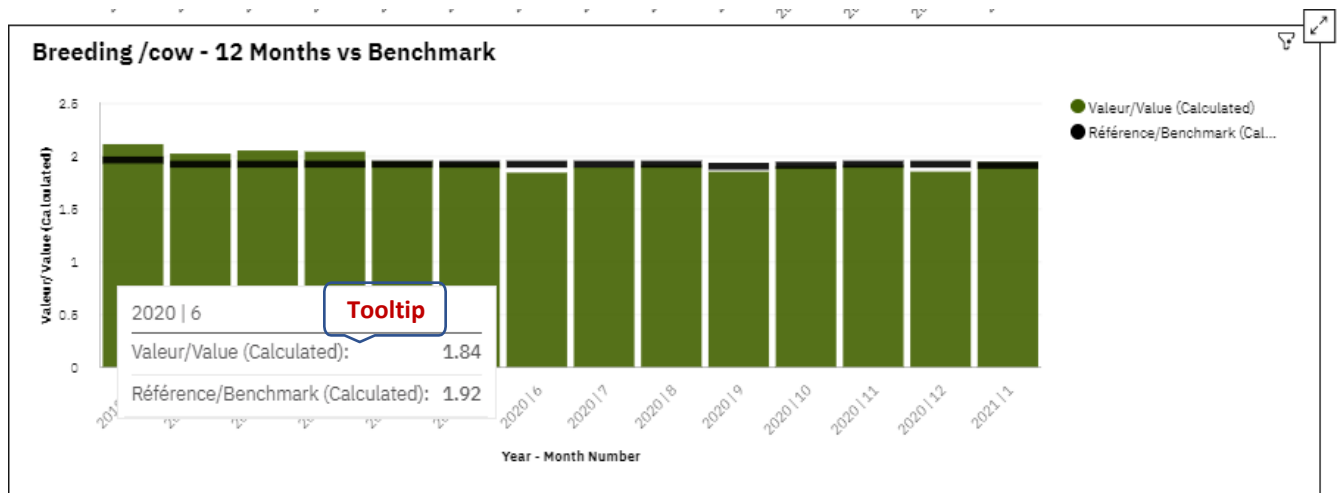
The *Column with Reference Line* graph shows columns that indicate the number of breedings per cow over the last 365 days. The dark green line indicates the benchmark. The user can choose the benchmark as described above.

- The horizontal axis indicates the test year and month.
- The left vertical axis indicates the number of breedings per cow - 12 months.

This type of graph allows the user to follow the evolution of herd performance by comparing it to benchmarks.

The example below shows that according to the test results from June 2020, the number of breedings per cow over the last 365 days is 1.84, whereas the provincial benchmark sits at 1.92. The herd's value is slightly lower than the benchmark.

The user can view the precise values by positioning their cursor over the column for a given date.



6. LONGEVITY AND EFFICIENCY Tab

Summary Production Economic Indicators Udder Health Reproduction **Longevity and Efficiency**

Under this tab, you will find:

Five performance indicators	Six performance monitoring visualizations
<ul style="list-style-type: none"> ✓ Number of Cows ✓ Cows in Milk (%) ✓ Involuntary Cull Rate (%) ✓ Herd Age (mo.) ✓ Heifer Ratio (%) 	<ul style="list-style-type: none"> ✓ Longevity (% of herd in 3rd lact. +) ✓ Cows Leaving Herd < 60 DIM - 12 months ✓ Cows in Milk (%) ✓ Heifer Ratio (%) ✓ Dry Cows vs. Cows in Milk ✓ Involuntary vs. Voluntary Cull Rate - 12 months (%)

Column Graph with Different Ranges

This graph displays the evolution of the cows in milk (%) for each test day. The three colors represent predefined ranges as follows:

- 0% - 79,9%
- 80% - 84,9% / 91,1% - 100%
- 85% - 91% inclusive

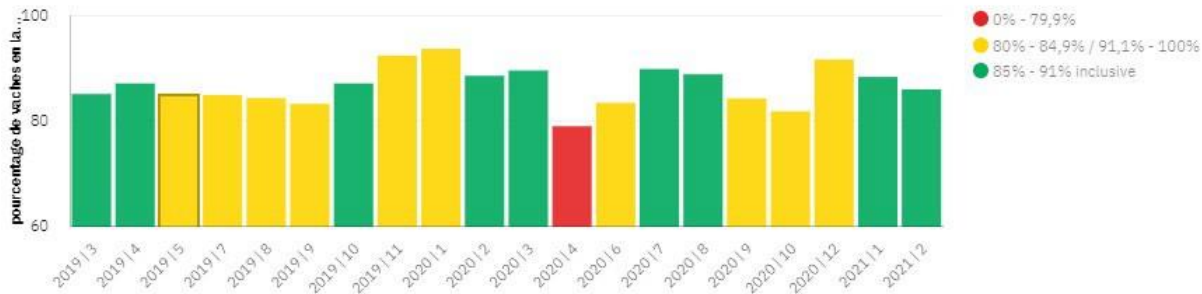
- The horizontal axis indicates the month and year of the test in ascending order.
- The vertical axis indicates the percentage of cows in milk.

The advantage of referencing this graph is to easily discern which months have optimal values from those with sub-optimal values.

The following example shows that the percentage of cows in milk in April 2020 was sub-optimal (less than 79.9%) and therefore displayed in red. A particular situation for one month can justify a seemingly undesirable value. Repeated red columns can signify that this criterion needs some special attention.

The user can see the precise result by positioning their cursor on the desired column.

Cows in Milk (%)



Glossary

Tab	Performance Indicator	Definition	Comments
Summary	Fat per Cow (kg)	This value indicates the average fat yield (kg) per cow in the herd that was in milk on testday	
Summary	Milk per Cow (kg)	This value indicates the average milk yield (kg) per cow in the herd that was in milk on testday	
Summary	SCC/ml ('000)	Represents the herd's weighted SCC average using each cow's milk production	Herd Average = Sum (kg milk x SCC) of all of the cow samples on test day / Sum or total (kg of milk from those same cows)
Summary	Urea (mg N/dl)	The concentration of urea in the milk expressed in milligrams of urea nitrogen per decilitre for the cows sampled on test day	Average of individual cow results
Summary	Projected Calving Interval (days)	Represents the projected calving interval for the cows present in the herd on test day	<p>Projected calving interval for each of the cows = (breeding date + breed pregnancy duration) - last calving date</p> <p>Projected breeding interval for the herd= projected calving intervals for each of the cows/number of cows selected</p>
Summary	Longevity (% cows in 3 rd lact.or +)	The percentage of cows in 3 rd lactation or more out of the total number of cows in the herd	Number of 3 rd lactation cows / total number of cows in the herd (x 100)
Production	Annual Milk (kg)	The average quantity of milk produced per cow over the last 365 days	This is calculated from the cow-days and the productions from all of the cows that produced milk over the course of a given period
Production	DIM	Represents the average number of days in milk for the cows present in the herd on test day by lactation and for the herd	Days in Milk = days in milk for the cows in milk on test day / number of cows in milk on testday

<i>Production</i>	<i>Standard Milk (kg)</i>	The standard milk represents the milk adjusted to the 2 nd lactation at 150 days in milk, at 4.0% fat and 3.3% protein	On every test day the standard milk values are calculated for every cow that is between 16 and 280 days in milk on test day
<i>Production</i>	<i>Standard Milk (kg) - 12 months</i>	Represents the rolling average of the standard milk for the herd over the course of the last 12 months	The calculated value represents the average standard milk over the course of the last 12 months. It is therefore a different value than the value calculated on test day
<i>Production</i>	<i>Fat (%)</i>	The herds average fat percentage	Weighted averages using individual milk production and the fat percentage for each individual cow - the bulk tank average is displayed for herds using the eDHI service
<i>Production</i>	<i>Protein (%)</i>	The herd's average protein percentage	Weighted averages using individual milk production and the protein percentage for each individual cow - the bulk tank average is displayed for herds using the eDHI service
<i>Economic Indicators</i>	<i>Annual Milk Value</i>	The annual per cow milk value according to the provincial price paid to producers	Value = the values of the cows that were present for the tests over the last 365 days /number of cows chosen X 365 days
	<i>Milk Value - TD</i>	The per cow milk value on test day	
<i>Udder Health</i>	<i>SCC/ml ('000)</i>	Represents the weighted SCC average for the herd using each cow's milk production	Herd Average = Sum (kg milk x SCC) of all of the cows sampled on test day / Sum or total (kg milk of the same cows)
<i>Udder Health</i>	<i>Linear Score</i>	The average LS is an indicator of general herd health	The average LS cannot be directly compared to average SCC. All of the cows contribute equally to the average LS but not to the average SCC
<i>Udder Health</i>	<i>Cows SCC >200 (number)</i>	The number of cows with an SCC value above 200/ml ('000) on test day.	Number of cows with a LS > 4 or an SCC >200,000 somatic cells/the number of analyses.
<i>Udder Health</i>	<i>Cows SCC >200 (%)</i>	The percentage of cows with an SCC value above 200/ml ('000) on test day	The percentage of cows with a LS >4 or an SCC > 200,000 somatic cells/number of analyses
<i>Reproduction</i>	<i>Days at 1st Breeding</i>	The number of days between the lactation start date and the date of first breeding	Number of days at first breeding for each of the cows involved. For each cow = date at first breeding - lactation start date

			Average number of days at first Breeding = number of days at first breeding for each of the bred cows /number of cows bred.
<i>Reproduction</i>	<i>Calving Interval (days)</i>	Represents the calving interval calculated using the actual calving dates (excluding the data from the projected calving dates) for all of the cows in the herd on test day	Calving interval for every cow = date of last calving - date of previous calving. Current calving interval = (total calving intervals for every cow in the chosen group)/number of cows selected.
<i>Reproduction</i>	<i>Average Days Dry</i>	Represents the average number of days dry for all of the 2 nd lactation or more cows that have completed a dry cycle	Days dry = Total number of dry days/number of cows selected.
<i>Reproduction</i>	<i>Age at 1st Calving (months)</i>	Represents the herd's average age at 1 st calving over the last 12 months	
<i>Reproduction</i>	<i>Average Days Open</i>	Represents the herd's average number of days open over the last 12 months	
<i>Reproduction</i>	<i>Number of Breedings per Cow</i>	Represents the herd's total number of breedings per cow bred over the last 365 days. Security breedings and returns are included in this number	Number of breedings = Total breedings 365 days/the total number of cows bred 365 days
<i>Reproduction</i>	<i>Herd Age (months)</i>	Represents the average age of the cows present in the herd on test day	
<i>Longevity and Efficiency</i>	<i>Cows in Milk (%)</i>	The percentage of cows in the herd that are in milk	% cows = number of cows in milk/total number of cows X 100

<i>Longevity and Efficiency</i>	<i>Involuntary Cull Rate (%)</i>	The percentage of cows that were culled involuntarily out of the total number of cows in the herd over the last 365 days	The reasons that might result in involuntary culling are: mastitis/high cell count, low udder, reproduction, foot and leg problems, illness, injury, age, milk fever, displaced abomasum, bloat, poisoning, electrocution
---------------------------------	----------------------------------	--	---

<i>Longevity and Efficiency</i>	<i>Voluntary Cull Rate (%)</i>	The percentage of cows that were voluntarily culled out of the total number of cows in the herd over the last 365 days	The reasons that might result in voluntary culling are: milk production, rental, poor milk production, poor fat production, poor protein production, poor temperament, slow to milk, exportation, conformation
<i>Longevity and Efficiency</i>	<i>Number of Cows</i>	The number of cows in the herd on test day	
<i>Longevity and Efficiency</i>	<i>Herd Age (months)</i>	The average age of all of the cows present in the herd on test day	
<i>Longevity and Efficiency</i>	<i>Heifer Ratio (%)</i>	The proportion of heifers out of the total number of cows in the herd on test day	
<i>Longevity and Efficiency</i>	<i>Heifer Ratio (%) _12 month</i>	The proportion of heifers out of the total number of cows in the herd over the last 12 months	
<i>Longevity and Efficiency</i>	<i>Cows Leaving Herd < 60 DIM _12 months</i>	The number of cows that were eliminated from the herd (excluding those sold for milk production) over the last 12 months	
<i>Longevity and Efficiency</i>	<i>Number of Dry Cows</i>	The total number of cows that were dry on test day	
<i>Longevity and Efficiency</i>	<i>Number of Cows in Milk</i>	The total number of cows that were in milk on test day	

Qualitative, Color-coded Indicator Thresholds

Thresholds are set in accordance with generally approved herd management guidelines for optimal economic performance. You, or your advisor, can establish different thresholds or objectives according to your herd's current performance. Users may not adjust the intervals.

Tab	Criteria	Interval	Color
Summary	SCC	Less than 200,000	Green
		Between 200,000 and 299,999	Yellow
		300,000 or more	Red
	Urea (mg N/dl)	Between 8.0 and 11,9	Green
		Between 12 to 13,9	Yellow
		Below 8 and 14 or more	Red
	Projected Calving Interval (days)	Less than 405 days	Green
		Between 405 and 429 days	Yellow
		430 days or more	Red
	Longevity (% cows in 3 rd lact. or +)	43% or more	Green
		Between 35% and 43%	Yellow
		Less than 35%	Red
Production	DIM	150 to 179 days	Green
		Less than 150 days and 180 days or more	Yellow
Udder Health	Linear Score	Less than 2.5	Green
		Between 2.5 and 2.9	Yellow
		3.0 or more	Red
	% Cows SCC more than 200,000	Less than 15%	Green
		Between 15% and 19.9%	Yellow
		20% or more	Red
Reproduction	Days at First Breeding	75 days or less	Green
		Between 76 and 89 days	Yellow
		90 days or more	Red
	Calving Interval (days)	Less than 405	Green
		Between 405 and 429 days	Yellow
		430 days or more	Red
	Age at First Calving (months)	Less than 24.5 months	Green
		24.5 months to 25.5 months	Yellow
		25.6 months or more	Red
	Average Days Dry	65 days or less	Green
		Between 66 to 68 days	Yellow
		More than 68 days	Red
Longevity and Efficiency	Involuntary Cull Rate (%)	16% or more	Green
		Between 16% and 24,9%	Yellow
		25% or more	Red
	Cows in Milk (%)	85% or more	Green
		Between 80% and 84.9%	Yellow
		Less than 80%	Red
	Heifer Ratio (%)	Between 50% and 80%	Green
		Less than 50% and more than 80%	Red