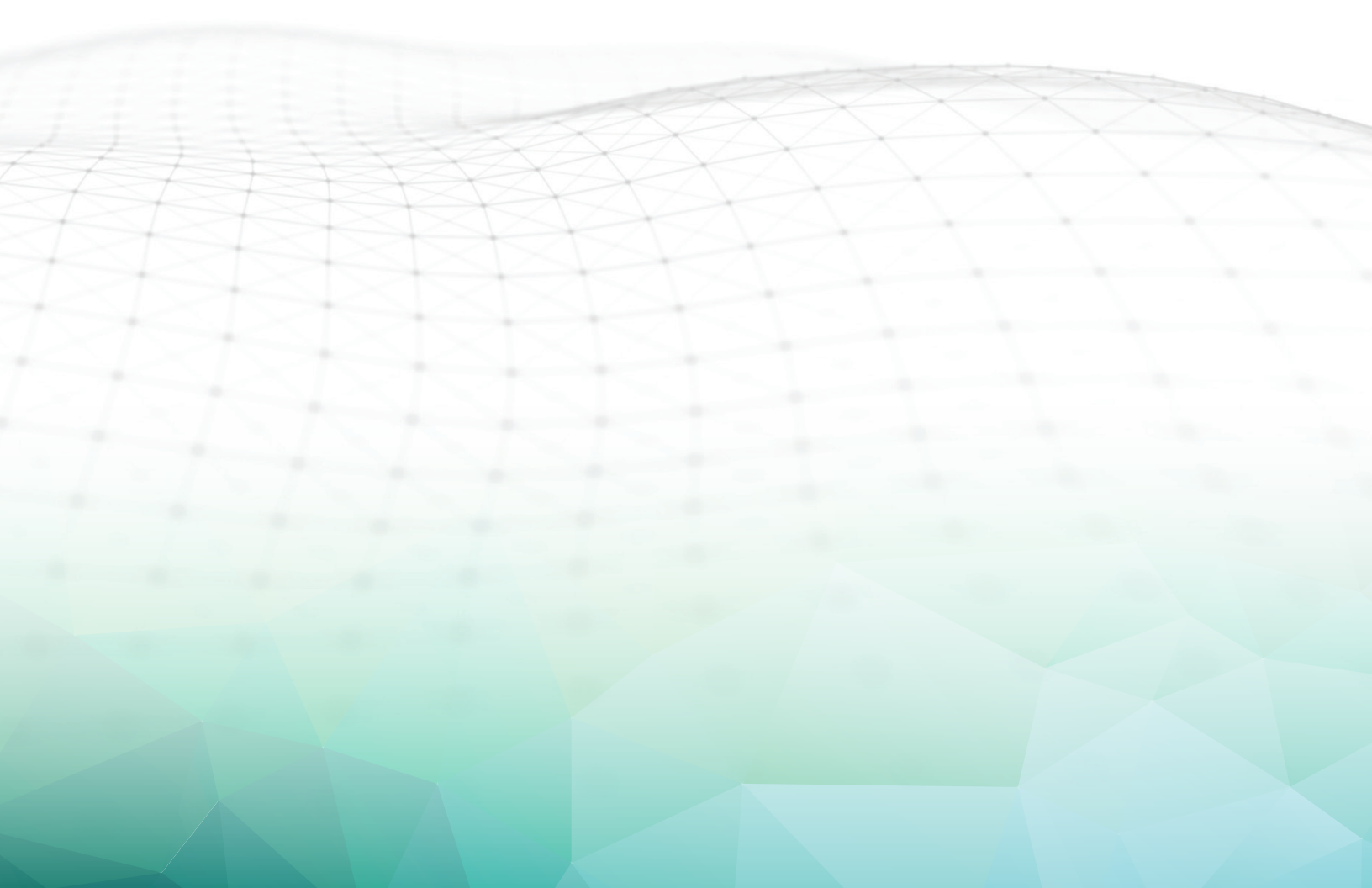




Solutions Guide

Essential Tools for Herd Management



Lead With Lactanet

We help dairy producers build high performing herds, sustainable dairies and a better bottom line with simple, convenient, affordable, and proven solutions that work.



Solutions for

PROFITABILITY

PRODUCTIVITY

SUSTAINABILITY

As gatekeepers of dairy data, we collect, protect and interpret herd information so it all makes sense to you. We do not share it without your expressed consent.

Profitable dairy cows must produce quality milk, breed often, and live a long time.
Let the data guide you.



LAB ANALYSIS MILK RECORDING

Proven Performance

Why milk test?

✓ Understand profit values

Milk revenue accounts for approximately 85% of the total revenue on most dairy farms and productivity matters.

✓ Boost performance

Future-proof your herd and develop high performing cows that are fit for tight margins, high quota demands, and longevity.

✓ Improve milk value

Optimize protein and fat ratios to maximize returns on the milk cheque.

✓ Monitor animal health

Improve cow care, prevent disease, and manage treatment plans to ensure your cows are functioning and feeling their very best.

✓ Mindful breeding

Select superior bulls and cows through performance records that contribute to genetic gain and improve breeding programs.

✓ Modern practices

Work with proven and sustainable methods of dry cow, transition and animal care that save money and are simply better for the cows.

✓ Peace of mind

Stay confident, drive progress and take the guess-work out of your day with data-driven decision making.



One simple milk sample, so many solutions

- Milk Value & Quality
- Fat, Protein & BCAs
- Lactose
- KetoLab
- MUN
- SCC
- *Mastitis4
- *Johne's
- Leukosis
- GestaLab
- Genetics
- *PROFILab

**Select regions*

5.4 million**
milk samples
are collected and
analyzed each year
from 6000+ dairy
farms in Canada

**2023 Lactanet Canada data.

DATA

SMART REPORTS

Interconnected & Insightful



Whether it be **health, performance** or **economics**, we can help you uncover your blind spots and discover the possible.

Easy, affordable, reliable

Milk collected during routine milk recording, bulk tank sampling, or on-demand, provides you with vital information to help you manage and understand your dairy animals from the inside out.

Perks

Customers who subscribe to routine milk recording may receive the following perks:

- fast test notifications
- convenient online access to results
- dynamic dashboards in MySite
- publishable records
- valuable benchmarks
- annual management reports
- a Herd Performance Index (HPI)
- recognition and awards
- ranking in Canada's Best Managed Dairy Herds program
- sharable data with your farm team and advisors
- integration of data with herd management software and mobile apps



Our newest smart reports - *Powered by milk recording*

Cow Ranking by Income

Want to know which cows make you the most money and how they compare with others when it comes to the milk income they generate? Our Cow Ranking by Income report identifies your trouble-free cash cows and ranks them by age and breed.

Udder Health Report for Selective Dry Cow Therapy (sDCT)

Accurate and regular Somatic Cell Count (SCC) is not only useful to identify cows with mastitis, but it also contributes to the reduction of antibiotic use. Approved by veterinarians, our Udder Health report provides guidelines to help find the herd and cows that fit the criteria for a selective dry cow practice.

Transition Management Index (TMI)

Managing the transition period can impact future production, metabolic balance and reproductive performance. Coming in 2024, our TMI uses milk recording and genetic data to provide a clear path to your cows transition success.

Sustainability Index

How does your herd measure up when it comes to sustainability? We can now use milk recording data to assess, set-pace, and future-proof your herd's performance with the Sustainability Index.

Attributing to a **productive life**, your peace of mind, and **impressive herd value**, is the well-being and efficiency of your livestock.



HERD HEALTH

KETOLAB

BHB Milk Test

Stay ahead of disease

Ketosis is a common disease that can be very costly, affecting as many as 40% of cows in early lactation. Since subclinical ketosis shows no visible signs, the only way for it to be monitored is to test for it.

The impact of ketosis

When a cow uses her fat stores as an energy source, ketone bodies are produced. In excess, their presence leads to a condition known as ketosis.

Subclinical ketosis can lead to:

- lower milk production
- impaired reproductive performance
- risk of displaced abomasum
- increased risk of mastitis
- other metabolic diseases

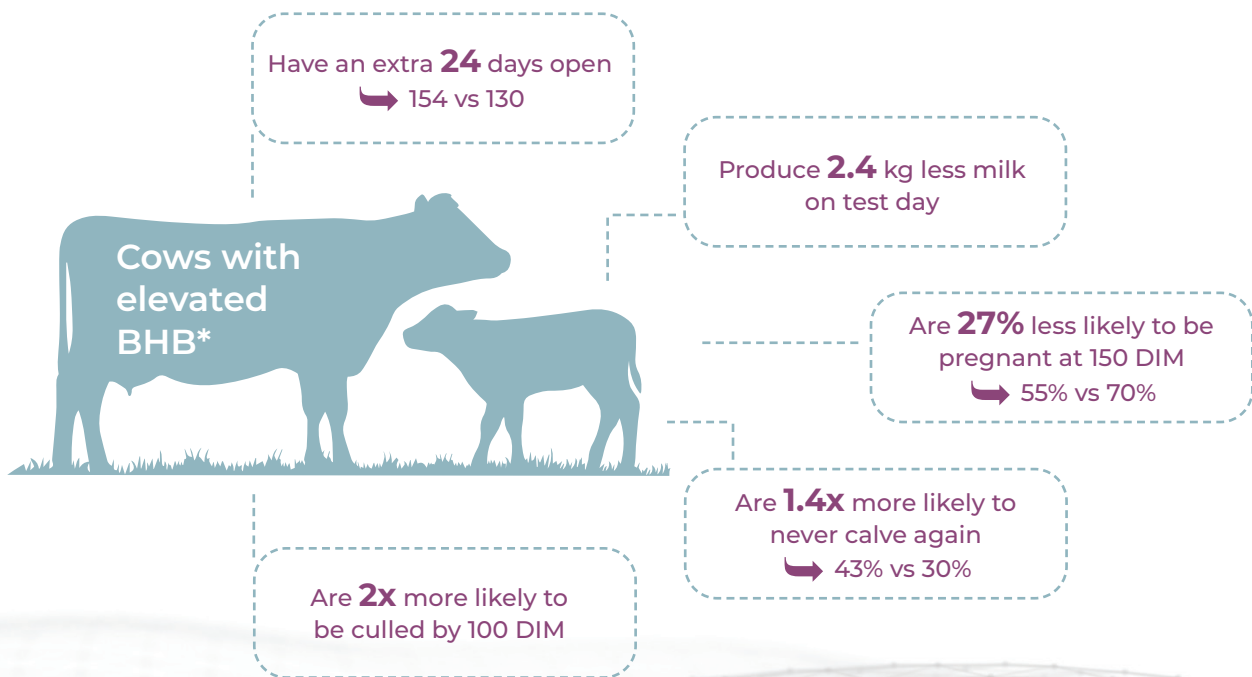
Trusted by advisors

KetoLab is a trusted diagnostic milk test from Lactanet that indicates the status and prevalence of risk for subclinical ketosis. It measures beta-hydroxybutyrate (BHB), a ketone body found in the milk to determine if the herd or individual cows are experiencing elevated ketone levels.

Proactive herd management

Over 48%* of herds on milk recording subscribe to KetoLab and when used on a routine basis, results can help:

- monitor your transition cow program
- mitigate problems before they occur
- improve overall animal health



*2023 Lactanet Canada data.

KetoLab Herd Report
KetoLab Cow Screening Report
Advisor Favourite

HERD HEALTH

MUN

Milk Urea Nitrogen Test



Monitor the protein-energy balance in the rumen and keep your ration in-line for the **ultimate performance**.

Rumen function

Protein and energy balance are important for good rumen function in dairy cattle and problems can occur if levels are not optimal.

High levels of degradable protein or low levels of fermentable carbohydrates can result in high concentration of ammonia in the rumen (and high MUN). A high level of ammonia not only represents a waste of degradable protein, but also an additional energy expenditure for the cow, who must eliminate excess nitrogen, mainly in her urine.

Low levels of degradable protein or high levels of fermentable carbohydrates can result in a lack of ruminal ammonia (and low MUN), which has a negative impact on the rumen microbial community, and the cows productivity.

When MUN is imbalanced, you may notice:

- lower milk production
- higher feed costs
- decreased fertility
- more nitrogen excreted into the environment

The right balance

MUN testing measures the level of urea in the milk and indicates how effectively the cow is using the protein in her diet. It is also used to help advisors inform and adjust feeding programs.

Feed management matters

A good diet is at the root of all successful herds. Grain sources, processing, fermentation, and moisture all affect the protein and energy of the diet.

A simple MUN test is ideal when:

- new feeds are being introduced
- protein types need balancing
- rations are being adjusted
- low milk protein is detected
- particle size or moisture levels of the grains have changed
- fecal consistency or colour is compromised
- a baseline is needed



When more MUN data is needed

Your milk pick-up bulk tank MUN information alerts you to day-to-day changes at the herd level. However, it's important to monitor MUN over time and not react too quickly to small variations as the cows' rumen needs to adjust to feed changes.

When more MUN data is needed to baseline, benchmark and monitor, Lactanet's milk MUN testing can drill down to the **herd, cow**, and even **group** level.

Hold your herd to a new standard and implement **progressive management** practices you can be proud of.



HERD HEALTH

SCC & sDCT

Udder Health Tools

Strive for low SCC

Milk is a high-value nutritional fluid in the food supply chain. And good quality dairy products can only be produced from good quality milk.

Milk from cows with a low Somatic Cell Count (SCC) has many benefits, such as reduced medication use, lower veterinary care costs, eliminating high SCC penalties on the milk cheque, or becoming eligible for premiums.

Reliable data is key

Data from Lactanet's SCC analysis can be reported for individual cows, lactation groups, and the overall herd.

Our SCC milk test can help:

- evaluate milk quality
- report production loss
- monitor udder health
- detect subclinical mastitis early
- track historical data to view progress

sDCT - a best practice

Selective Dry Cow Therapy (sDCT) is a best management practice promoting antimicrobial stewardship.

✓ Selecting your animals

sDCT programs work hand-in-hand with reliable Somatic Cell Count (SCC) data, and Lactanet's Udder Health report flags which cows to consider for your sDCT practice.

✓ Trust the data

Data shows that the majority of Canadian dairy herds have an average SCC of <250,000 on a year-round basis and may be good candidates for sDCT.

✓ Convenience

The Udder Health report is generated through routine milk testing and is a valuable resource for you and your veterinarian. It is a proactive approach to reducing antibiotic use at dry-off without compromising udder health and performance.

Are your cows good candidates for sDCT?

Herd Level*		<ul style="list-style-type: none"> • minimum 8 herd tests with SCC results (<i>in past 12 months</i>) • annual herd average SCC < 250,000 • no more than 2 herd tests with SCC average \geq 250,000
Cow Level* (once herd level is met)		<ul style="list-style-type: none"> • cow SCC average \leq 200,000 (<i>last 3 tests</i>) • no clinical mastitis event in 3 months prior to dry-off • less than a 99 days estimated dry period

- SCC Herd Summary Report
- SCC Cow Summary Report
- SCC Management List Report
- Udder Health Report
- Advisor Favourite

*SCC data from Lactanet milk test analysis.

HERD HEALTH

MASTITIS4

Mastitis Milk Test



Mastitis continues to be the most significant and costly disease of dairy cattle and **early detection** is necessary to control infection.

Reduce economic loss

Milk yield, milk quality, discarded milk, and animal welfare are all areas of concern when a cow has mastitis. It is a costly disease and it is reported that 24% of herds experience mastitis issues costing producers an average of \$662/cow/year*.

Diagnosis and treatment

To effectively control mastitis and determine the right treatment, a lab diagnosis should be made with milk samples from infected cows.

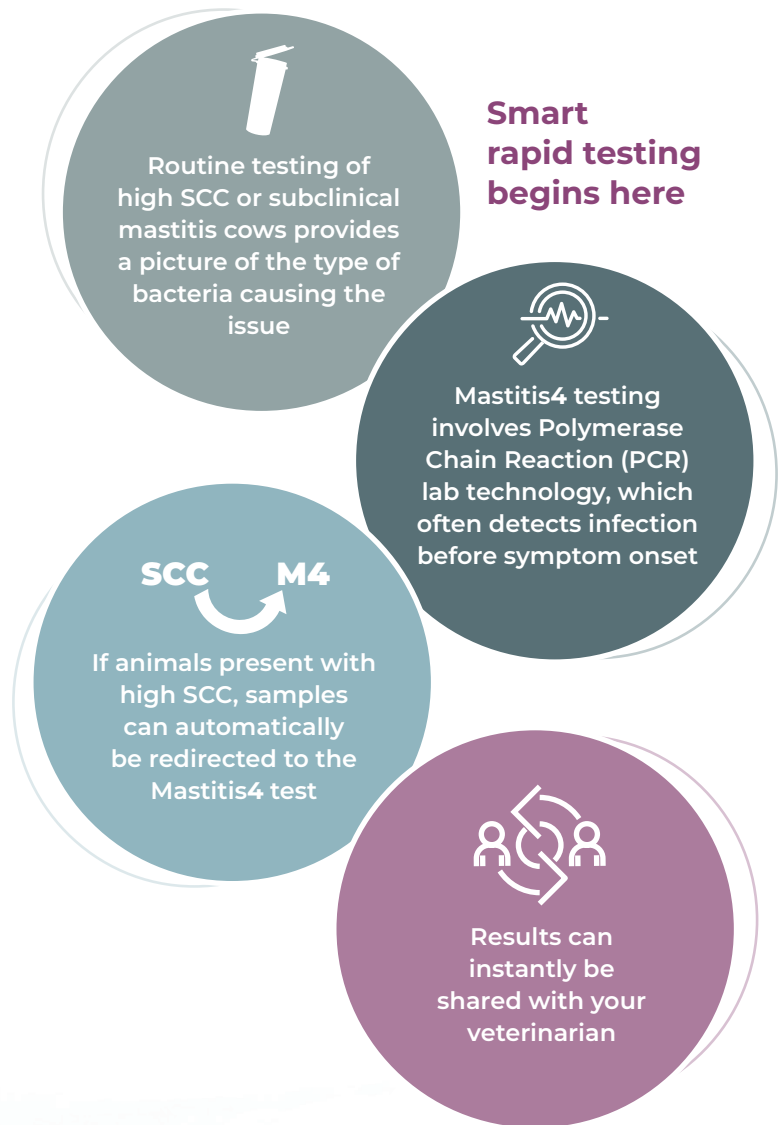
Lactanet's Mastitis4 milk DNA test accurately identifies the presence of **four** mastitis contagious pathogens: *Staph. aureus*, *Strep. agalactiae*, *Mycoplasma bovis*, and *Prototheca spp.*

According to farm-specific protocols established by the herd veterinarian, Mastitis4 is used to:

- manage subclinical and clinical mastitis
- screen for major contagious mastitis pathogens
- monitor and improve udder health and milk quality
- test new animals entering the herd

Convenient and fast results

Lactanet processes over 17,000** Mastitis4 milk samples annually. Let our accurate SCC and Mastitis4 testing be the answer and part of your cow care regime.



*Herd-Level Mastitis-Associated Costs on Canadian Dairy Farms, Published online May 14, 2018, www.ncbi.nlm.nih.gov/pmc/articles/PMC5961536/, Mahjoob Aghamohammadi, Denis Haine, David F. Kelton, Herman W. Barkema, Henk Hogeveen, Gregory P. Keefe, and Simon Dufour.

**2023 Lactanet Canada data.

Mastitis4 Herd Report
Mastitis4 Cow Report
SCC Report
Advisor Favourite

We know that an ounce of prevention is a pound of cure. **Protect** and **eliminate** Johne's from your herd.



HERD HEALTH

JOHNE'S

MAP Antibody Test

Breaking the cycle of disease

Paratuberculosis (or Johne's Disease) is a chronic and progressive intestinal infectious disease for which there is no treatment or cure.

A simple Paratuberculosis milk test is a practical and affordable option to identify infected animals and control Johne's. Dairy producers can also use it to screen new animals being introduced into the herd as part of their biosecurity protocol.

Prevent Johne's from spreading

Johne's has a significant economic impact associated with reduced milk production, premature culling, and reduced slaughter value.

Canadian research* estimates the loss associated to Johne's to be \$416 per infected cow/year. Therefore a 100-cow herd with just a 10% infection rate would potentially lose \$4,200/year to the disease. In 2015, Johne's was estimated to be present in 40% of dairy herds and that number is only increasing.

Know your risks

The bacteria that causes the disease, *Mycobacterium Avium Subspecies Paratuberculosis* (MAP), is mainly spread through ingestion of contaminated manure, and newborn calves are assumed to be the most vulnerable to infection.

Very few animals will ever show clinical signs of the disease, but they can still shed the bacteria within the herd while subclinical.



What you notice:

- CLINICAL**
- diarrhea and weight loss
 - subtle, nonspecific symptoms that are often confused with gastrointestinal parasites, peritonitis, and bovine leukosis

What you don't notice:

- SUBCLINICAL**
- silent, asymptomatic infection
 - bacterial shedding
 - for each clinical case, there are likely 25 or more subclinical cases in the herd

*Caroline S. Corbett, S. Ali Naqvi, Cathy A. Bauman, Jeroen De Buck, Karin Orsel, Fabienne Uehlinger, David F. Kelton, Herman W. Barkema. Prevalence of *Mycobacterium avium* ssp. *paratuberculosis* infections in Canadian dairy herds, *Journal of Dairy Science*, Volume 101, Issue 12, 2018. Pages 11218-11228. <https://doi.org/10.3168/jds.2018-14854>.

Johne's Screening Herd Report
Johne's Screening Cow Report
Advisor Favourite

HERD HEALTH

LEUKOSIS

BLV Antibody Test



EBL is a common disease that infected herds must actively **control** and uninfected herds must work diligently to **prevent**.

The silent effects of Leukosis

Enzootic bovine leukosis (EBL) is an incurable infectious disease caused by the bovine leukemia virus (BLV) that affects a large proportion of Canadian dairy herds.

Most animals with Leukosis will remain asymptomatic, despite being infected for life. About 30% of infected animals develop a persistent lymphocytosis (elevated white blood cell count). Lymphosarcoma (cancer) eventually appears in less than 5% of infected animals as they get older, most commonly during lactations two to six.

Since there is no way to treat Leukosis, once you know the prevalence and severity of the infection in your herd, it's important to work with your veterinarian to establish an action plan.

How does an animal become infected?

The primary route of transmission of BLV is via infected blood. Transmission can also occur from:

- tainted equipment between animals
- natural insemination
- biting insects
- dam to daughter

Economic impact

Leukosis is a slow progression disease that can:

- decrease milk yields
- reduce longevity
- weaken immune function




It is reported that costs associated with Leukosis range from \$412 to \$635 per infected cow, with potential of \$12,000 to \$19,000 per year for the average infected Canadian dairy herd.*

Producers selling breeding stock and embryos will feel a larger financial disadvantage, since most international buyers require Leukosis Free status.

Noninvasive and convenient

When screening for Leukosis-positive cows, Lactanet's Leukosis milk test has the same accuracy as blood testing, but is noninvasive. It can be part of your routine milk sample collection or as a standalone test.

Recommendations for Leukosis Milk ELISA** Testing

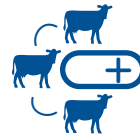
Initial herd		The entire herd should be tested to determine if the virus is present and to estimate the extent of infection
Newly purchased cows		Test all purchased cows being introduced to the herd
Cows on the move		Test all incoming and returning cattle

*Dairy Farmers of Canada: www.dairyfarmers.ca/Media/Files/proaction/Bovine_Leukosis_Virus.pdf

**Reliable test results using ELISA (Enzyme-Linked ImmunoSorbent Assay) laboratory technology.

Leukosis Herd Report
Leukosis Cow Report
Advisor Favourite

Reproductive performance is essential to all **successful dairies** and the earlier pregnancy is detected and confirmed, the better.



REPRODUCTION

GESTALAB

Milk Pregnancy Test

Easy, quick and reliable

Efficient pregnancy testing is the cornerstone of great reproduction success and profitability on dairy farms.

Lactanet's GestaLab milk pregnancy testing is not only accurate and affordable, but noninvasive milk sample collection improves animal welfare, reduces your workload, and is less stressful for you and your cows.

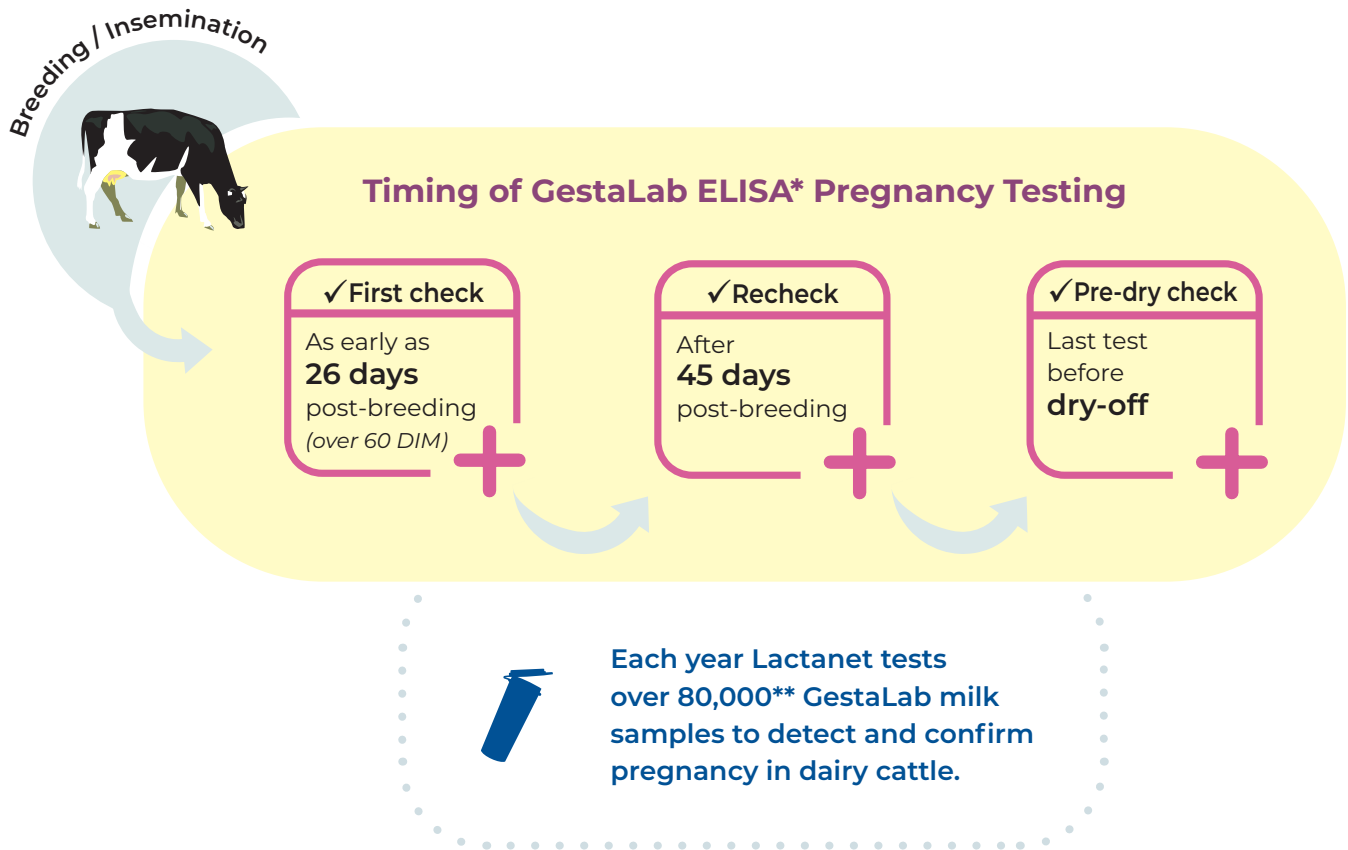
Early detection is key

GestaLab can be used as early as 26 days post-breeding, which makes it one of the earliest accurate pregnancy testing methods available.

GestaLab advantage:

- identify and rebreed open cows early
- contributes to improved reproductive performance
- noninvasive and convenient

Samples can be processed during routine milk recording or on-demand, the choice is yours.



*GestaLab uses ELISA (Enzyme-Linked ImmunoSorbent Assay) laboratory technology for confirming pregnancies in dairy cattle by measuring Pregnancy Associated Glycoproteins (PAGs) in the milk.

**2023 Lactanet Canada data.

GestaLab Milk Pregnancy Report
Advisor Favourite

GENETICS SELECTION

Strategies for Success



Data collected on test day contributes to genetic evaluations required for **mindful breeding**.

Genetic gains

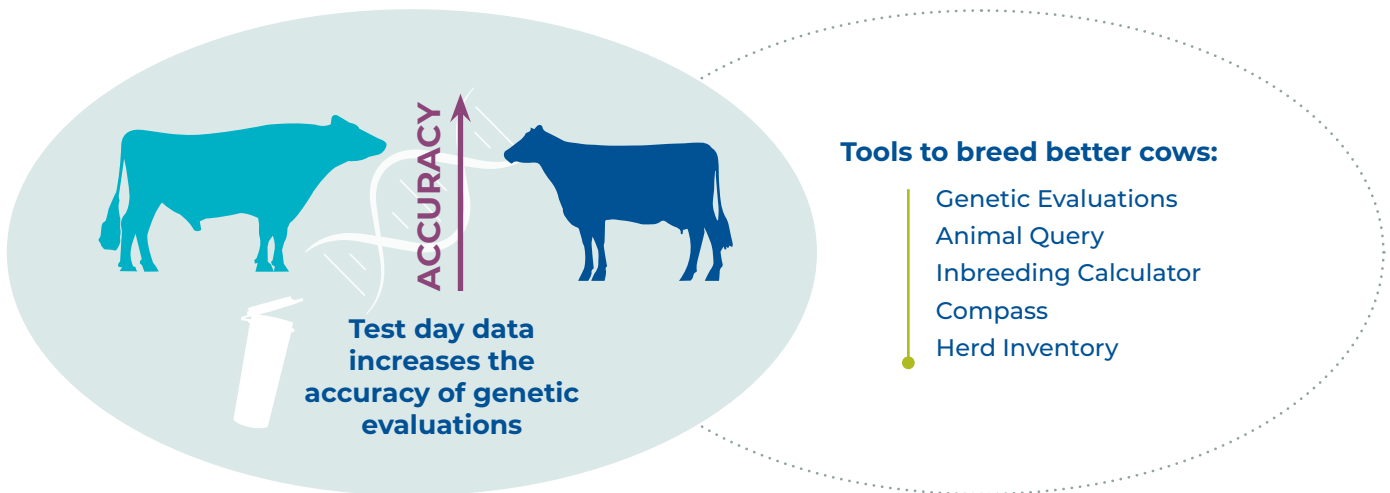
In Canada, there are 460,000 cows spread across 5,500 herds that qualify for production evaluations. In fact, annual genetic gains in LPI and Pro\$ have doubled since genomics was introduced in 2009 in the Holstein breed.

The official genetic evaluation for Canadian genotyped animals is the most valuable tool available today to select superior bulls and cows as parents of the next generation.

Synergies

Although each producer will have their own breeding strategy, there are significant synergies between genetic evaluations and milk recording.

While data collected on each test day is used for herd management, it is also used in calculations of genetic values for many traits, such as production, health, longevity, and reproductive performance. All organizations rely on this information to give farmers selection and mating options.



Lactanet publishes Genetic Evaluations for 100+ traits for seven dairy breeds



PRODUCTION

- *Milk
- *Fat
- *Protein
- *Fat %
- *Protein %



TYPE

- Conformation
- Mammary System
- Feet & Legs
- Dairy Strength
- Rump
- +26 others



FUNCTIONAL

- *Methane Efficiency
- Feed Efficiency
- *Body Maintenance Requirements
- *Herd Life
- *Lactation Persistency
- *Daughter Fertility
- *Milking Speed
- *Milking Temperament
- Body Condition Score



HEALTH

- *Mastitis Resistance
- *Somatic Cell Score
- *Metabolic Disease Resistance
- Hoof Health
- *Fertility Disorders



CALVING PERFORMANCE

- *Calving Ability
- *Daughter Calving Ability

*Calculated from data collected on test day.

Milk fatty acids can tell us more about rumen health, ration utilization, and feeding behaviour than ever before.



MANAGEMENT

PROFILAB

Milk Fatty Acid Profile

Innovative solutions

Are you satisfied with your herd's milk and butterfat performance?

Lactanet is one of the first organizations globally to offer an innovative fatty acid milk analysis service, called PROFILab.

PROFILab measures *de novo*, mixed and preformed milk fatty acids from bulk tank samples to help you assess rumen microbiome and body fat mobilization.

More detailed than butterfat alone, bulk tank fatty acid profiles provide a better understanding of the herd's metabolism and offer the opportunity to optimize ration balancing and maximize feed margins.

Proven science for profitability

Available in select provinces, PROFILab is one of Lactanet's newest and most progressive herd management tools. Initially launched in Quebec, over 30%* of herds in Quebec now use PROFILab to support their profit model and reach herd goals faster.



Keep an eye on your herd's rumen health with PROFILab fatty acid analysis.



PROFILab can answer your questions

- Are your cows' rumens healthy and with optimal microbial function?
- Could your herd produce more milk?
- Are your cows making the most efficient use of their ration?

- assess your herd management
- improve ration balancing
- optimize feed management practices
- increase profit margins

MANAGEMENT

ROBOTICS

Automated Milking



In Canada, 22%* of cows **on-test** milk in robot environments and this number continues to rise.

Why milk record at the robot?

✓ Flexibility and easy data-flow

From routine testing to on-demand, Lactanet has flexible service options that complement and validate data generated from robots. Our team can set up Ori-Collector samplers as well as help determine your needs before, during and after your robot system start-up.

✓ Your sample, our solution

Milk samples tested in accredited Lactanet laboratories provide a range of possibilities. From basic components and metabolic and disease indicators, to ruminal health and methane emissions - individual milk samples have never provided so much reliable and useful information than ever before.

✓ Genetic gain

Dairy producers are breeding and managing a different kind of cow at the robot. Udder depth, teat placement, functional feet and legs, milking speed, and temperament may all attribute to the cow's efficiency in the robot. However, the power of milk recording contributes to the most accurate genetic selection tools and to the future of your dairy.

✓ Exclusive reports and benchmarks

By working alongside robot manufacturers, Lactanet has developed exclusive benchmarks and relevant tools available in the Robot Report. This data is used to improve milking efficiency and compare performance with other robot dairies.

Investing in the future



Dairy producers continue to invest in modern milking technology to minimize labour, expand without adding labor, enrich their lifestyle, or keep the next generation interested in farming.

✓ Precise feeding

Concentrate management can be tricky at the robot and is the number one factor in robotic milking success. Your feed advisor will appreciate relevant data in the language they know best to balance cow diets at each stage of lactation, as well as monitor equipment calibration issues.

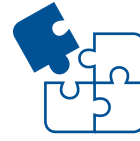
Top tools for robot herds

Robot Production & Efficiency Report
Components
SCC Reports
MUN

KetoLab
Transition Management Index
Genetic Herd Inventory
Herd Performance Index

*2023 Lactanet Canada data.

At Lactanet, we have a 'cow-care culture' and serve 9,000+ Canadian dairy farmers and their advisors from coast to coast.



SUPPORT CUSTOMER CARE

Your Lactanet Team

Leading the change

Our vision is a world where dairy farmers have the tools and knowledge to take the very best care of their herd - and their animals will in turn pay it forward.



Customer care

Solving challenges - it's what we do everyday. Our technicians, advisors and customer service desk can lighten your workload and provide solutions for a better farming experience. On-site or remote, we are your support team with unlimited online access to your data.



Lactanet labs

Rooted in dairy herd improvement are our lab services. Lactanet operates four laboratories across Canada where over five million milk samples are processed each year. Milk analysis lets you and your team focus on the right cows, at the right time, with the right treatment.



Centre of expertise

As a knowledge hub, our experts uncover new ground and share innovative and progressive dairy practices. Through education and training we invite producers to learn, be proactive, and advance their skill set.

We take care of the dairy community

Lactanet offers all dairy farmers a variety of accessible resources to nourish their soul.

Data

Benchmarks, Genetic Evaluations

Online Tools

Animal Query, Compass, Inbreeding Calculator

Events

Canada's Best Managed Herds, Workshops, Seminars

Knowledge

Articles, Training, Webinars, Podcasts

Publications

Annual Progress Report

eNews

Milk Zone, Dairy Knowledge





Want to learn more?

Let's Chat



WESTERN CANADA & ONTARIO
660 Speedvale Avenue West, Suite 101
Guelph, ON N1K 1E5
1-800-549-4373

QUÉBEC & ATLANTIC CANADA
555 des Anciens-Combattants Blvd.
Sainte-Anne-de-Bellevue, QC H9X 3R4
1-800-266-5248

info@lactanet.ca
lactanet.ca

