

ATLANTIC PROGRESS REPORT 2020



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2020 STATS & TIPS

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Atlantic Progress Report 2020 Stats & Tips

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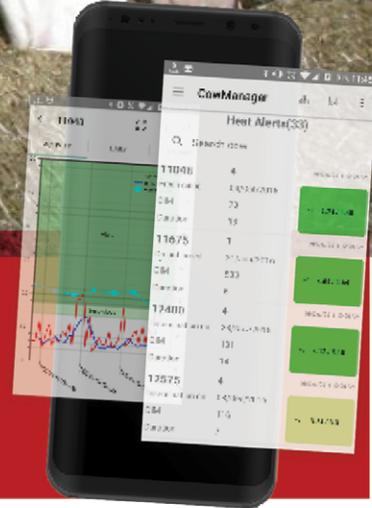
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A word from our CEO

Welcome to our annual Lactanet Atlantic Progress Report, Stats & Tips, that features interviews of the top herd for each province. They inspire excellence in herd management. Benchmarks, statistics, farm profiles and interesting articles are also the traditional gold standard of this publication.

2020 will forever be known for COVID and 'a new normal'. As an organization, we were able to adapt quickly and push forward while protecting our staff, you, and your family. Temporary changes to accommodate a 'no contact' service and modifications to Publishable Records criteria were implemented to ensure the continuation of services.

Highlights of Lactanet's 2020 accomplishments, include the introduction our eDHI service that does not require a farm visit, a Bulk Tank Fatty Acid Profile service in Quebec that is anticipated to be extended to other provinces in the future, a Selective Dry Cow Therapy tool to support the reduced use of antibiotics, the launch of DairyTrace in conjunction with Dairy Farmers of Canada. And finally our latest **Master Your Feed Margin** workshops, were a success in all parts of the country.

Technology and automation advancements continue to serve producers and is an important part of our industry's future. This includes on-farm herd management software as well as on-line and mobile applications. DairyComp has a lengthy list of benefits and this leading-edge herd management software has the integrated capability to automatically report traceability events directly to DairyTrace.

As robot milking systems jump from 12% in 2019 to 14% in 2020 and herd size continues to grow, we also have our sights on the road ahead. We are seeing more than three barn conversions per week across the country and now have more than 900 robot herds in Canada testing over 110,000 cows. We continue to develop services to support your investment in on-farm automation with tools such as the Robot Production and Efficiency Report and eDHI service option.

In closing, I would like to thank our customers. We are committed to providing you with easy to understand accurate herd data and management solutions — and better support means better results.

Sincerely,

Neil Petreny
CEO, Lactanet Canada



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A word from our Chair

This year's Progress Report pays tribute to the success of our customers, the achievements of our partnership, and the challenges of 2020. I am proud of what we have accomplished in our first two years together as Lactanet, and we are honored to be a part of your business, but perhaps this issue is also about celebrating the best of the human spirit.

2020 has left its mark on all of us. On March 11, 2020, the World Health Organization declared the Coronavirus (COVID-19) outbreak a pandemic and it has forced us to take stock and make changes to just about everything we do. As I write this message, many areas in Canada are in lockdown (again), some have curfews to reduce the spread of the disease and our Lactanet offices in both Ontario and Quebec have not yet reopened. Many businesses have suffered and others found opportunities and a new way of reaching their market. Lactanet was no exception.

It's important to acknowledge the personal and professional obstacles that fellow dairy producers and employees have experienced during this pandemic. The fortitude, vision, and drive to support the dairy industry will enable us to continue to build a strong foundation and future. We are grateful to have caring staff who practice safety protocols, are able to supervise customer sample collection, provide lab testing, and help keep our dairy operations working at their best.

This year on our own farm with 75 cows, we built a free-stall barn and added two milking robots as we transitioned from a tie-stall facility. This was a big project integrating various technologies to help us prepare for a more efficient future. This change reinforced the value that we place on the variety of Lactanet service options, that are both practical yet innovative, as we adapt to managing our dairy differently.

One thing is for certain, we have entered 2021 stronger, and as a farmer-run organization there are three initiatives that I would like to highlight that inspire producer engagement, connection, enhanced board governance, and partner collaboration. The first is a new National Resolutions Process, the second is the addition of an external Lactanet Director, and the third is our participation in an Animal Improvement Industry Vision initiative.

Please take the opportunity to read more in the pages ahead and give applause to so many outstanding dairy operations. Let's celebrate the results that are possible through committed dairy farms that participate and are guided by data for herd management practices and decision making.

Sincerely,

Barbara Paquet
Chair, Lactanet Canada
Dairy Producer, Saint-Côme-Linière, Quebec

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A word from our Regional Manager

As we continue to navigate our way through the global pandemic, the strength and resiliency of our industry and of our human spirit, has become apparent. It has been a year to remember, to say the least. As we move toward spring, we are all looking forward to brighter days ahead, figuratively and literally. Market analysts predict that the economy will rebound in the coming months, which is good news for our industry.

I am proud to present the second part of our Lactanet Atlantic 2020 annual publication, Progress Report, Stats & Tips, which includes provincial statistics on herds and cows in all four provinces. We strive to provide them with accurate data that helps them to make decisions. Decisions are more complex than ever before and technology is playing an increasingly significant role in management. With the technology, comes an overwhelming amount of data, and using the data effectively and efficiently is critical. For this reason, we continue to offer advisory services and the number

of herds using our advisors to help interpret the test day data to monitor herd performance and profitability is growing. We are also offering more tools such as regular calculations of the feed margin. If you are not enrolled in one of our programs, but are interested in learning more about how data can be used to monitor and improve performance and profit, please contact me.

We know challenges still lie ahead, but we are all in this together. Partnerships are key, and we will continue to work with other industry partners to offer the Atlantic Dairy Calendar, ProAction[®] support services, workshops, and research projects to help dairy farmers meet these challenges head-on. I look forward to continuing to work with you in this tremendously dynamic, exciting industry. It is an absolute honor.

Jeff Gunn
Regional Manager





Evolving tools and services that contribute to results

By Mario Séguin, agr., Dairy Production Expert, Lactanet Canada

Even during the COVID pandemic, milk recording remains at the heart of Lactanet's activities. Data acquisition and exchange with computerized systems is constantly evolving in Canada and around the world. Here are some concrete examples that took place in 2020.

A Year Marked by COVID

Although an essential service, on-farm milk recording was not spared from the constraints of the pandemic, Lactanet was quick to adapt initially offering a "no contact" service. With the return of on-farm services, new procedures were put into place and services were adapted to collect samples and data, while keeping everyone safe.

With supervision service schedules and publishable records affected, Lactanet's Milk Recording Standards Committee provided flexibility for the publication criteria of lactation records due to COVID-19. To meet the challenges brought on by COVID and make the most of technology, Lactanet has expanded services and introduced new programs as well.

eDHI: Great Potential for Remote Electronic Milk Recording

eDHI has existed since 2019 and now serves 46 farms in Canada representing 9,000 cows. With some clients departing from on-farm visits, this service experienced growth and while it may not be for everyone, it has many advantages:

- *A lower cost than traditional milk recording*
- *Exclusive tools and reports (i.e. Robot Report)*
- *Historical data and comparable benchmarks*
- *Herd inventory for genetic indexes, sire selection and classification*
- *Publishable data and performance indicators (i.e. Herd Management Score)*

iDDEN: International Collaboration to Facilitate Data Exchange

September 2020 marked the introduction of iDDEN (International Dairy Data Exchange Network), the

Continued

largest international partnership related to dairy production. The goal of this organisation is to simplify the exchange of information between dairy herds, milk recording agencies, on-farm service providers, and agricultural equipment and software manufacturers.

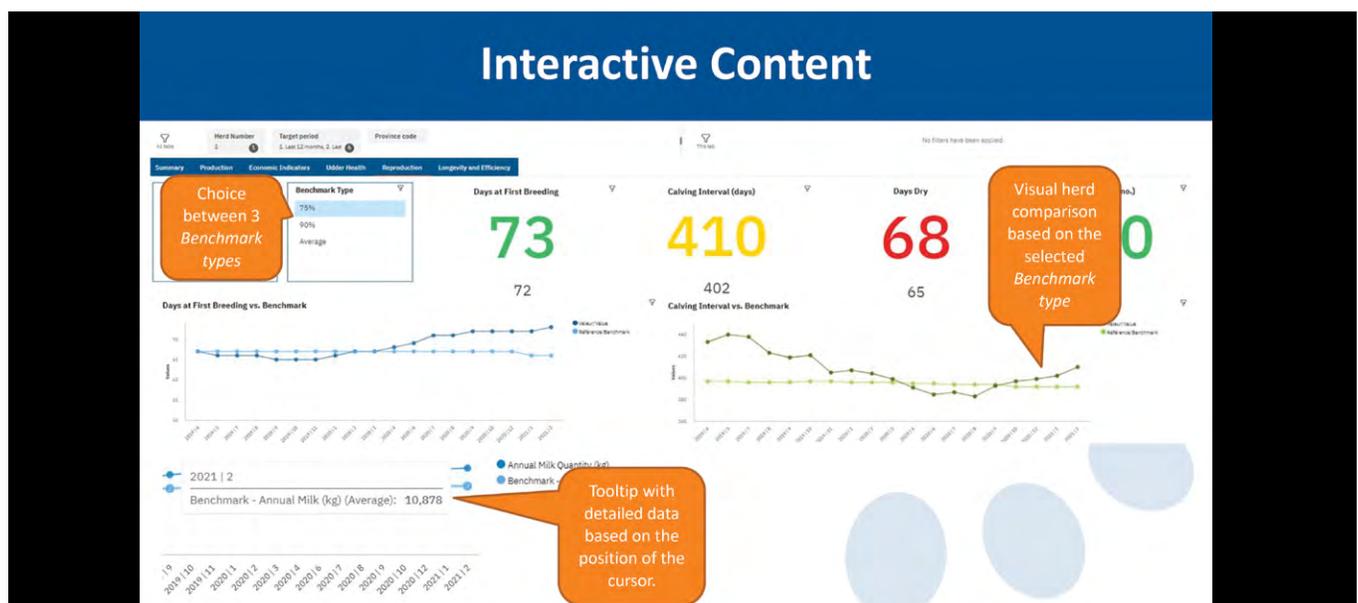
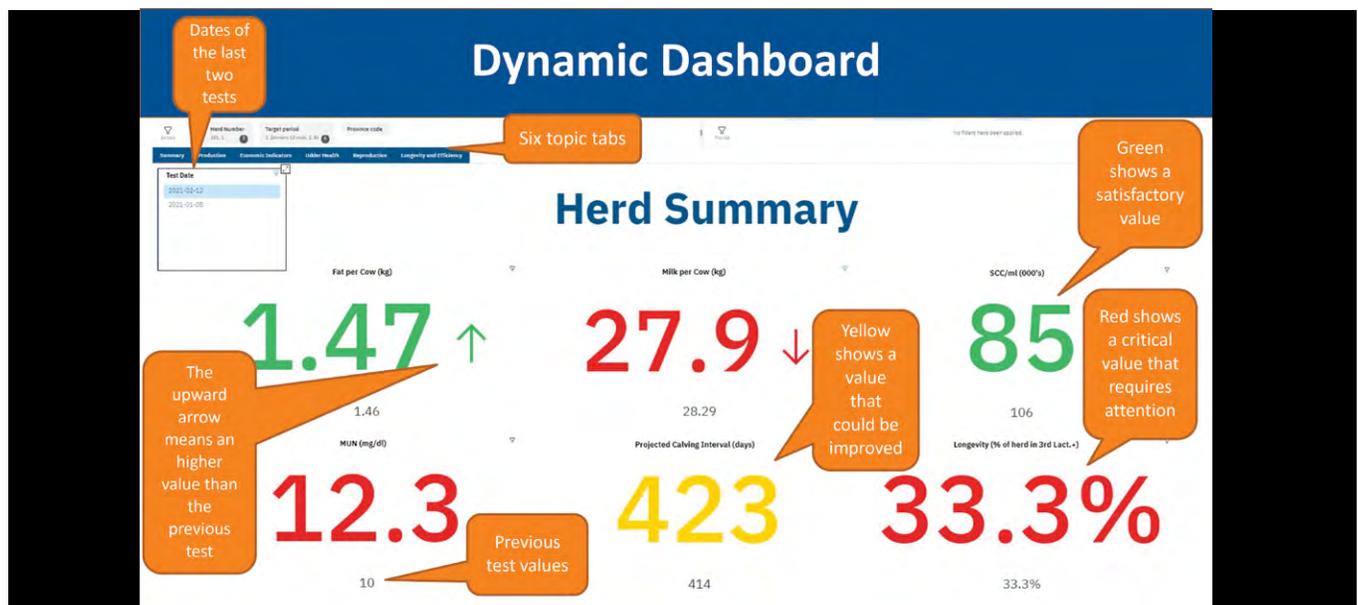
iDDEN will provide data exchange systems, solutions and standards that can integrate on-farm equipment and software with national dairy databases. Dairy farm owners remain in control, as they must authorize the access to, and use of their data.

Herd Summary Dynamic Dashboard: Added Value

Herd management data is useful for measuring performance and making progress. Lactanet customers

can now log into MySite and watch their herd data come alive on the Dynamic Dashboard. This interactive online tool has customizable options for viewing Herd Summary information important to the producer. Data is presented in the form of visual graphs and tables to provide a snapshot of herd activity and identify if there is an emerging problem that requires further investigation using other reports.

The Herd Summary is the first dashboard produced by Lactanet and there are plans to develop others to meet the ever-changing needs of dairy producers. Lactanet is continually investing in and improving its services and despite COVID, this will continue to evolve.





Are you inspired by robot data?

By Gervais Bisson, Strategic Advisor & Robot Specialist, Lactanet Canada

Did you ever notice that it is easier to achieve success when you delve into activities that you are interested in, rather than those that you find tedious? This is no different with robot milking.

Plenty of Data

If you like data, you have hit the jackpot with your robot, as it can provide 120 entries per cow per day or more! Data pairing has evolved to help recognize cows with issues more easily. In fact, manufacturers have designed specific reports for cows with a higher probability of having health problems. Detecting problems earlier and taking action results in cows that can return to good health quickly, with less long-term effects. This in turn reduces lost revenue and decreases veterinarian and treatment expenses. A win-win for both you and the cow.

Data clustering will continue to grow in the future, thanks to artificial intelligence. New sensors and milk analysis parameters will mean that more data will be available to identify more complex situations and behaviours. So, will you need a computer science degree to work with a milking robot? Of course not! The goal is to simplify management and identify problematic cows.

Performance

Mastering robot milking can help you increase labour efficiency and improve herd management, leaving you more time to monitor the reports that the robot provides. If you are performance driven, this extra time spent on herd management will help improve your results. For example, Table 1 shows the averages for the top 2% of herds with 12-month milk production, fat production per robot, and milk production per robot.

The first group in blue is targeting high milk production per cow. These robots are usually not as full, as indicated by the 25.8% free-time for this group and the number of cows per robot at 44.1. In this scenario, milk production per cow takes precedence with an average daily production of 42.4 kg and a yearly average of 13,138 kg. Productivity is maximized by the number of milkings at 3.1. Milkings per cow close to 3.0 implies that the cows at the start of lactation will have an average that is higher than this number. When the number of milkings increases quickly at the start of lactation, this stimulates the mammary gland to produce more milk and the peak production will be higher.

TABLE 1	Milk 12-month (kg)	Milk/Robot/Day (kg)	Fat/Robot/Day (kg)	Milk/Cow/Day (kg)	# Cows/Robot	# Milkings/Cow	Free Time (%)	Efficiency (kg Milk/Min Robot)	Milk Value/Robot/Day (\$)
Milk Production/12-month	13,138	1,866	72.4	42.4	44.1	3.1	25.8	1.95	1,336
Fat Production /Robot/Day (kg)	11,420	2,275	92.9	36.3	62.9	2.6	17.0	2.12	1,684
Milk Production /Robot/Day (kg)	11,758	2,305	92.7	37.3	62.3	2.7	17.2	2.15	1,695

Average performance from the top 2% of herds according to annual milk production per cow, quantity of fat produced per robot per day, and quantity of milk produced per robot per day. Results are 12-month rolling averages, where the milking robot is the sole milking system, have been considered for the fat production/robot/day and the milk production/robot/day.

Continued

The second group in orange and yellow is targeting robot efficiency. This group is aiming for optimal milk and fat production per robot, therefore maximizing their revenue per robot. Their milk revenue per robot is around \$350 higher than the milk production per cow champions. By taking full advantage of their robots, there are more cows per robot and the percent free-time is lower. To maximize the free-time, some of these herds have a slightly lower number of milkings per cow.

This option does not always pay off since a reduction in the number of milkings may penalize production. Even

if the robot is almost full, it is still important to maintain an average of 2.7 milkings or more per cow per day. Since the robot champions in this group try to maximize their production per robot, these herds show milking efficiency at 2.12 kg of milk/minute for fat and 2.15 kg of milk/minute for milk production.

It is always interesting to scrutinize the results of the very best because they help us understand how much room there is for improvement.

Benchmarks Milking Robots - Predominant Breed Holstein Only, December, 2020

	Atlantic Canada		Quebec		Ontario		Western Canada		Canada	
	Robot	Total ¹	Robot	Total ¹	Robot	Total ¹	Robot	Total ¹	Robot	Total ¹
Number of herds	31	253	293	2,785	278	2,046	172	692	774	5,776
Number of cows per herd	114.9	107.9	104.8	77.7	116.9	92.6	150.3	187.8	119.6	97.5
Annual milk (kg/cow/year)	10,965	9,883	10,497	9,962	11,221	10,187	11,086	10,477	10,906	10,100
Annual fat (kg/cow/year)	443	402	423	406	443	405	439	426	435	408
Annual fat (%)	4.01	4.06	4.02	4.08	3.95	3.98	3.96	4.07	3.98	4.04
Annual protein (kg/cow/year)	369	329	355	336	373	336	367	347	365	337
Annual protein (%)	3.35	3.33	3.37	3.37	3.32	3.30	3.32	3.32	3.34	3.34
305-day milk (kg)	11,017	9,929	10,400	9,978	11,175	10,282	11,259	10,708	10,893	10,171
305-day fat (kg)	435	399	411	402	437	404	440	430	428	406
305-day fat (%)	3.95	4.01	3.95	4.03	3.91	3.93	3.91	4.02	3.93	3.99
305-day protein (kg)	364	326	343	331	366	334	368	350	358	334
305-day protein (%)	3.30	3.28	3.30	3.32	3.27	3.25	3.27	3.27	3.28	3.29
Days at peak	49	46	47	45	50	47	57	55	50	47
Peak milk (kg)	45.0	39.7	42.6	40.2	44.9	40.7	44.3	41.9	43.9	40.5
Lactation persistency	96	99	97	97	98	98	98	98	97	98
Annual Transition Cow Index*	642	177	440	253					459	246
Longevity (% 3rd lactation +)	40.1	38.4	39.8	41.4	36.8	36.3	34.6	34.7	37.6	38.7
Age at 1 st calving (months)	25.6	26.3	24.9	25.3	24.8	25.4	25.3	25.3	25.0	25.4
Average herd age (months)	45.2	45.9	44.4	46.2	42.7	43.7	42.8	43.0	43.4	44.9
Herd turnover (%)	37.0	37.4	34.1	34.6	41.7	41.1	39.8	41.2	38.2	37.8
Mortality (%)	3.9	3.3	5.0	5.1	5.3	5.5	7.8	7.3	5.7	5.4
Disposal for feet/legs (%)	2.2	2.5	3.4	2.6	2.1	2.2	2.7	2.6	2.7	2.5
Disposal for reproduction (%)	6.2	6.6	5.7	6.0	6.5	7.3	5.1	5.6	5.9	6.4
Disposal for mastitis/high SCC (%)	4.2	4.1	3.3	4.1	2.0	3.4	3.6	4.0	3.0	3.9
Sold for milk production (%)	2.9	5.7	2.3	2.9	9.3	9.0	5.5	6.4	5.6	5.6
Calving interval (days)	411	420	401	411	406	418	420	422	407	415
Days to 1 st breeding	87.5	86.6	74.1	76.8	83.2	85.5	93.3	91.6	82.2	82.1
Days dry	69.9	71.4	64.5	64.1	66.8	67.5	71.5	74.6	67.1	66.9
Annual SCC ('000/ml)	207	187	198	197	189	204	208	197	198	199
Annual milk value (\$)	8,013	7,345	7,643	7,397	8,335	7,627	8,225	7,953	8,042	7,543
Herds with feed	1	24	57	640					58	664
Annual feed cost (\$)		2,381	2,493	2,383					2,485	2,383
Margin over feed cost (\$)		5,161	5,171	5,050					5,191	5,054
Feed cost (\$/hl)		25.54	25.49	25.01					25.56	25.03

¹ Number of herds with a known milking system.

New focus on production efficiency

Brian Van Doormaal, Chief Services Officer, Lactanet Canada

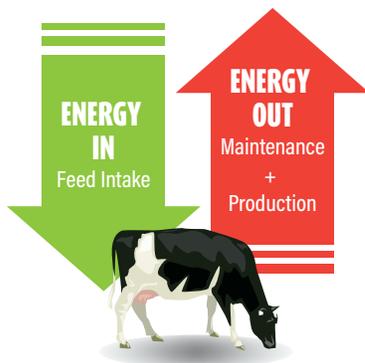
Genomic selection has been possible in Canada for over 12 years now, since the first official genomic evaluations were published by the Canadian Dairy Network (CDN) in 2009. Following an innovative, 5-year international research effort that was led by Canadian scientists, 2021 marks Lactanet's introduction of Feed Efficiency evaluations in the Holstein breed.

It is well known and understood that feed costs represent a major expense on every dairy farm. It's also clear that some animals are more efficient in converting the feed they consume into milk production, which is the primary source of income for dairy producers.



Feed intake bins used at the Ontario Dairy Research Centre at the Elora Research Station.

Lactanet Canada made history in April 2021 by publishing the first official Feed Efficiency (FE) genetic evaluations for the Holstein breed. This major initiative makes Canada among the first countries around the world to deliver national genetic evaluations for Feed Efficiency based on daily feed intake and body weight data collected on individual cows in various herds, including three in Canada, eight in the United States, and three others internationally.



Feed Efficiency evaluations are expressed as Relative Breeding Values (RBV) with the average sire being set to 100 and the approximate range is from 85 for the poorest sires to 115 for those sires whose daughters are best at converting feed into milk production. For every 5-point increase in the sire's RBV for Feed Efficiency, the daughters are expected to reduce their dry matter intake by approximately 60 kg during their lactation after peak yield, without negatively affected production levels or reducing body weight.

For decades, focus of genetic selection has been on increased levels of production. More recently, attention has also been paid to various functional traits that aim to reduce the costs of production and/or increase the longevity of dairy cattle in herds across the country. Today, with the tools provided to Lactanet customers, your focus can now be on production efficiency, which includes genetic selection for both high production levels as well as maximizing the biological feed efficiency of the dairy animals in your herd.



How to improve the winter survival of legumes

By Jean-Philippe Laroche, Agr., M. Sc., Nutrition and Forage Professional, Lactanet

During the winter, forage plants can undergo many stresses: temperatures below freezing without sufficient snow cover, excessive soil moisture, presence of ice, diseases, etc. Among the effects that climate change will have, climate experts predict a decrease in cold hardening of plants, a decrease of snow cover, an increase of winter rains and an increase in freeze-thaw cycles. To help our legumes pass through the winter, several strategies can be used.

From field preparation...

Experts agree that forage yields are on average higher in plots protected by a windbreak.

When buying seeds, make sure that the species has proven itself in the region. It is also relevant to choose a cultivar with a better winter survival score. In addition, also choose a mixture with one or more grasses since this promotes the persistence of the legume stand.

...until harvest time

Cutting management has a great impact on the winter survival of legumes. Indeed, intensive management reduces the capacity of legumes to accumulate reserves, which reduce their persistence. In addition, fall cutting has a negative effect on the persistence of legumes: it also affects the accumulation of plant reserves, while reducing the capacity of fields to collect snow.

Recent Canadian study shows that fall cutting only provides a short-term benefit. While this practice provides additional yield the year it is performed, there is no positive effect on the overall yield of a 4 years stand. This is explained by a decrease in yield for the years following a fall cut. Fall cutting should therefore only be done as a last resort. If done, a thatch of at least 10 cm (4 inches) must be left to collect a minimum of snow. Leave at least 50 days between the last cut and the fall cut, which will give our legumes time to build up a minimum of reserve. Over the entire productive years of a stand, harvesting at the early flowering stage without a fall cut maximizes the winter survival of alfalfa. In addition, this strategy also maximizes milk production per hectare, estimated from nutritional value and yield.



Improving winter survival begins before the implantation. The soil in which the stand will be sown plays a crucial role. First, a well-drained soil will improve the plants' cold hardiness, decrease the extent of frost in the soil, and prevent ice crusting. Excess water must be avoided.

Fertility also has an important role to play. Studies have shown that potassium and phosphorus have a positive effect on the cold resistance of legumes. However, fertilizing a soil with a bad pH is like throwing money down the drain, since a suboptimal pH makes certain nutrients less available to the plant. So don't forget to lime!

Snow cover as an insulator against the cold is important so the implantation of windbreaks is gaining in popularity. When properly planned (choice of trees, spacing, orientation, etc.), they reduce wind speed, which promotes snow accumulation.



A checklist for limiting the negative effects of a long dry period

Karen Bergeron, agr., Strategic Advisor. Article written in collaboration with strategic advisors and Lactanet's Innovation and Development team.

How to meet the challenge of production limits in the context of the COVID-19 pandemic? One of the main strategies adopted by many producers was drying off cows early at the end of lactation.

With the approach of calving for these cows that have been on an extended vacation, some worry that there could be negative effects. In this unusual situation, how can we offer the best possible conditions for calving and a successful lactation? We have drawn up a list of the key elements to consider at each step:

1. At Dry Off
2. During the Dry Period
3. After Calving

Continued

A checklist for limiting the negative effects of a long dry period

At Dry Off	
Selecting cows to dry off early or cull	<ul style="list-style-type: none"> • Perform milk production planning • Dry off or cull cows that are lame, have high SCC or that are disease carriers (e.g. leukosis) • Confirm pregnancy before drying off • Aim for a body condition score between 2.75 and 3.2
Recommendations for drying off early	<ul style="list-style-type: none"> • Limit protein and energy intake • Provide hay or grass silage that is low in protein and withdraw concentrates. • Provide an adequate mineral supply • Relocate the cow • Maintain water access • Use abrupt dry off for cows producing 15 kg of milk/day or less. • Use intermittent milking if all of the other options fail to decrease milk production to 15 kg/day or less. Limit intermittent milking to 2-3 days. • Consider using a teat sealant. The use of a teat sealant is strongly recommended when there will be a long dry period. • Hoof trimming
Health Monitoring	<ul style="list-style-type: none"> • Consult your veterinarian about adjusting the vaccination protocol if the cows are vaccinated at drying off. • Verify the Dry Off & Fresh Monitoring report. If there are a lot of fresh cows with high SCC, discuss dry cow management with your veterinarian because infections observed during the first 50 days of lactation have often been acquired during the dry period.



DairyTrace is a national dairy cattle traceability program administered by Lactanet Canada.

Traceability is one of six proAction® modules. DairyTrace provides protection, prosperity and peace of mind to the Canadian dairy industry and its customers.

A goal of dairy traceability is to double-tag all dairy animals. Dual tag sets include a RFID electronic tag, ideally placed in the right ear of the animal and a secondary panel tag placed in the left ear. This ensures that if an animal loses one tag, they can still be identified with another, as well as having the capability to work with RFID technology and electronic tag readers.



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RECORD REPORT



One Source For ALL Your Traceability Tags!
When you run out of your single yellow button tags, contact DairyTrace to place an order!

WHITE SINGLE BUTTON RFID TAG

DairyTrace has the option of a WHITE single button RFID tag that may be used for calves that are destined to leave the farm at a young age for purposes other than dairy production.



A checklist for limiting the negative effects of a long dry period

During the Dry Period	
<p>Housing</p> <p><i>Minimize stress, avoid overcrowding, provide a clean, dry and well ventilated environment</i></p>	<ul style="list-style-type: none"> ▪ Ensure that there is adequate ventilation to minimize heat stress <ul style="list-style-type: none"> ▪ Aim for a respiration rate below 60 breaths/minute ▪ Ensure that the dry cows are cooled in the summer (wind speed 300 to 400 ft./min) across the backs of resting animals ▪ Provide good air quality (40 to 60 air changes/hour in summer, 15 in the spring and fall, and 4 in the winter) ▪ Limit overcrowding in pens <ul style="list-style-type: none"> ▪ Aim for a minimum of 120 ft²/head resting area ▪ Provide a minimum of 30 in./head space at the feed bunk ▪ If overcrowding is unavoidable: <ul style="list-style-type: none"> ▪ If possible, increase the space at the feed bunk by adding more mangers ▪ Increase the number of waterers or watering points ▪ Add bedding more often ▪ Increase feeding frequency and push in the feed more often ▪ Evaluate the number of replacement animals you will need and cull if necessary to free up some space ▪ Disinfect calving areas and the sick cow pen ▪ Ideally, never calve cows in the sick cow pen ▪ Provide sufficient water flow (15 l/min) for tie stalls or a minimum of two waterers for free stalls (3.5 in./head). The water should be clean at all times. ▪ Provide adequate comfort for dry cows that are housed outside: <ul style="list-style-type: none"> ▪ Provide shade (45 ft²/cow) ▪ Provide a minimum of 30 in./head of space at the feed bunk. For example, a round hay feeder with an 8-foot diameter and 18 sections will allow 15 cows to eat at the same time ▪ Control flies and parasites ▪ Provide fresh water and clean waterers
<p>Daily Observation</p> <p><i>Prevent health problems</i></p>	<ul style="list-style-type: none"> ▪ Designate someone to be responsible for evaluating: <ul style="list-style-type: none"> ▪ Lameness ▪ Udder engorgement ▪ General behaviour (standing, lying down) ▪ Rumen fill, rumination ▪ Manure texture
<p>Body Condition Score</p>	<ul style="list-style-type: none"> ▪ Body condition score should ideally be maintained between 2.75 and 3.25. Monitor body condition once a month ▪ Prepare cows 25 days before calving and heifers 32 days before calving

A checklist for limiting the negative effects of a long dry period

<p>Production</p>	<ul style="list-style-type: none"> ▪ The average duration of a pregnancy is 280 days (Lactanet, 2020) Validate the pregnancy duration used by your software ▪ Group cow relocations to only take place once a week ▪ Relocate cows at least 21 days before their predicted calving date or right before labour begins ▪ Ensure that the alleys are not slippery when moving cows ▪ Evaluate the option of using the Rumensin bolus with your veterinarian ▪ Clip and wash the udder before calving
<p>Feeding <i>Prevent metabolic problems through adequate feeding.</i></p>	<ul style="list-style-type: none"> ▪ Limit energy intake during the first phase of the dry period (16-17 MCal/day) ▪ Validate forage intake ▪ Analyze the forage that is fed to dry cows ▪ Add fibre or straw to the ration to dilute the energy ▪ Meet mineral and vitamin needs ▪ If the minerals are offered in the form of a mineral lick block, validate the true intake from the block and complement if necessary ▪ Provide comparable feeds in the dry ration and the close-up ration ▪ Evaluate the use of choline ▪ Monitor urine pH when using anions in the ration
<p>After Calving</p>	
<p>Fresh Cow Monitoring</p>	<ul style="list-style-type: none"> ▪ Designate someone to be responsible for observing the fresh cows <ul style="list-style-type: none"> ▪ Rumination ▪ Rumen fill ▪ Milk production ▪ Temperature ▪ Odours ▪ Appetite ▪ Take milk cultures in the first 30 DIM after calving for bacteriological analysis. ▪ Monitor for ketosis (Ketolab, Precision Extra, Ketotest)
<p>Feeding</p>	<ul style="list-style-type: none"> ▪ Use a specific ration for fresh cows if possible ▪ Provide access to the ration 23 hours out of 24 ▪ Avoid ration sorting. Validate with Penn State ▪ Provide comparable feeds in the close-up ration and the fresh cow/early lactation ration ▪ With conventional feeding, increase concentrates by around 350 g per day. ▪ Transfer cows from the fresh cow group, to group 1 after approximately 7 DIM, when the intake, production and health are satisfactory



Selective Dry Cow Therapy Has Its Place

By Peter Edmondson. The author is a veterinarian who operates UdderWise - Global Mastitis Solutions in the United Kingdom.

Andrew was telling me that he now only treats around 20 percent of cows with dry cow antibiotics. He just wished that he made the move to Selective Dry Cow Treatment sooner. He admitted that he was initially concerned about dropping Blanket Dry Cow Therapy.

Andrew sees no difference in his herd's somatic cell count (SCC) or incidence of clinical mastitis, but more importantly, he sees a savings in dry cow tubes and he knows that it's the right thing to do. There is no justification to use antibiotics in healthy animals or people, and in most European countries, you now can't use antibiotics to prevent disease.

One big switch

It's just over three years since the largest milk buyer in the United Kingdom started to move all of its milk suppliers from blanket to Selective Dry Cow Therapy (sDCT). It has been an interesting journey, and to be truthful, at the outset, farmers were more open to this idea than many veterinarians. Veterinarians were afraid of things going wrong and the consequences that might occur.

Farmers have adapted well, with the greatest majority making the move easily and seeing a range of benefits. A gentle approach was taken, starting off by explaining all about sDCT and how to make it work successfully. As always, there were the early adopters who were then followed by the majority of farmers.

It's now common practice

Blanket Dry Cow Therapy was originally recommended as part of the famous "Five Point Mastitis Plan" to reduce cell counts. At that time in the late 1970s, the average somatic cell counts were well over 500,000/mL and subclinical mastitis was widespread. It also was promoted to help prevent new infections in the dry period.

Now SCC's are much lower, the U.S. averages 180,000/mL, which is the same as the UK and many other countries. Milk buyers pay less for high cell count milk and so farmers have reduced these counts to get the highest milk price. In addition, as you reduce mastitis and improve udder health, milk yield goes up and animal welfare benefits.

Main defense

Remember the teat canal is the primary defense mechanism to stop infection entering the udder. An important step to prevent dry period infections is to use an internal teat sealant. There have been more trials on their benefits than many other areas of mastitis control.

Internal teat sealants must be administered in the correct way using utmost hygiene. Veterinarians often assume that farmers know what to do and that they always follow best practice. All too often when I visit farms as they are drying off cows, there are areas for improvement.

Total cleanliness a must

I have seen farmers wipe the outside surfaces of the teat and then infuse intramammary tubes without ever having cleaned the teat end! Some farmers use medicated wipes intended for cleaning teats rather than cotton wool soaked in alcohol or alcohol wipes. Some assume that postmilking teat disinfection is adequate and there is no need to clean the teat end.

Training for dry-off is so important. We explain what we are trying to do and why. Demonstrate the best practice, and then get the person to demonstrate the steps back to you so you know that they fully understand and can do the job. It's beneficial to repeat this training on a regular basis.

For higher cell count herds

If you have a herd SCC over 200,000/mL, then it's advisable to tackle the mastitis problem before moving to sDCT. There is no reason why any farm cannot have a herd SCC of under 150,000/mL all year round. Your vet can double check that your herd is suitable to move to sDCT, and if not, they can offer advice to get you there.

Right thing to do

Many people resist change. Some of our farmers said that blanket dry cow treatments always worked for them and so why change?

They liked the fact that it was easier because you didn't have to make any decisions for individual cows. They were fearful that things might go wrong with the selective approach. However, once you go through the risk factors, check the herd SCC, and agree on which cows need to receive antibiotics at dry-off, it's easy.

Milk and dairy products are foods important for maintaining human health. Whether we agree or not, we all know deep down that sDCT is the right thing to do.

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FARM PROFILE

Prospect Acres

Owners: Mary Ellen, James & Ronald Trueman
Sackville, New Brunswick

Number of Employees: 1

Hectares of Cultivated Land: 140

Number of Cows in Milk: 95

Housing: Free-stall



Mary Ellen Trueman is a dairy producer but also the Atlantic Representative on the Valacta Board (within the Lactanet partnership)

Committing to Improvement

A woman of action, Mary Ellen Trueman is committed to the advancement of the dairy industry. She manages her commitments as she manages her farm: with an open mind, always ready to learn and improve.

Besides being involved with Ayrshire Canada, Mary Ellen Trueman has sat on the Valacta Board of Directors for two years. It is her way of making an impact on the future of the dairy industry.

"When you get involved in a company like Valacta, that represents the Canadian dairy industry as a whole, you have to consider all farms, from coast to coast", affirms the New Brunswick producer.

She believes that it is important to keep in mind that the decisions being made can have an impact on other farms across the country. "It is easy to know what would have an impact on your business, but it is a challenge to evaluate the consequences a decision may have on a farm hundreds of kilometers away, living different realities than yours."

She also believes that the Canadian dairy industry should be seen as one big boat where everyone has to paddle in the same direction.

Continued

Improvement Mode

The Trueman family arrived in Canada — and on the farm — at the end of the 1700's. Today, Mary Ellen and her brother are the eighth generation to take the reins of the family business.

Through the generations, many changes have been made to Prospect Acres farm. In the last 20 years, for example, the Truemans built a facility for their heifers and dry cows, with an area for the calves, which replaces a building dating back 200 years.

The main barn was built in 1967, "but still works perfectly well for 21st century dairy production", Mary Ellen points out. That being said, the Trueman's still modified the stalls so that they were better adapted to the current size of dairy cows and made improvements to the lighting.

Today, the Truman's have 95 pure-bred Ayrshires cows housed in a five row free stall barn that are fed outside 12 months per year.

"Animal comfort is a very important value to us, we are not afraid to spend more for facilities that will improve the welfare of our cows."

Along the same lines, Mary Ellen likes to focus more on cow longevity than on productivity. "We want healthy cows that will be around for a long time. We may lose a few hundred kg here and there in milk recording, but it is because we have a lot of cows with multiple lactations", she explains.

This strategy has paid off for the farm, as they have been at the top of the charts for milk quality in New Brunswick for the last fourteen years.

"One improvement that we would like to make soon, is to add more protein to the rations", mentions Mary Ellen. "We are in the process of testing to see how our cows respond."

For the New Brunswicker all of these improvements and management strategies follow the same principle: "We don't know everything. That is why it is important to continue to learn, participate in discussions and get involved as much as you can."



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FARM PROFILE

Sunny Point Farms

Owners: Philip & Lori Vroegh
Churchville, Nova Scotia

Number of Employees: 12

Hectares of Cultivated Land: 385

Number of Cows in Milk: 320

Housing: Free-stall



The Vroegh's genetic focus is on productive cows with good longevity.

Healthy Cows, A High-Performance Herd

A focus on animal comfort and feeding, and a reliance on hard working employees has helped the Vroegh's to secure a place among the best dairy herds in Canada for the past seven years.

"We are happy to have been among the top 25 since the beginning. We don't really think about it on a daily basis, but this recognition, is the cherry on top of the cake!" says a visibly proud Philip Vroegh.

Mr. Vroegh manages a profitable farm, striving to ensure that his cows are healthy and his employees are happy. These are ambitious objectives, and he doesn't skimp on the details in order to achieve them.

The producer moved his cows to a free-stall barn bedded on sand several years ago. The 320 milking cows are milked in a double-12 parlour.

In 2015, he modified his facilities to improve cow comfort. He built a new maternity area, for example, and a straw-bedded area for the close up dry cows.

"We also focus heavily on nutrition. We grow our own forages and corn silage on 950 acres of land. Our goal is to provide our herd with the best quality of feeds possible", shares Mr. Vroegh.

Continued

Passion Handed Down through the Generations

Philip Vroegh grew up on a family farm that was founded by his father and grandfather 60 years ago. Having recently emigrated from the Netherlands, they settled down in Noel, Nova Scotia.

After finishing his studies, Philip moved west, before realizing that he wanted to take over the family farm in 1991. He already knew what he wanted: a farm that was big enough to be able to hire workers that could support him in his work.

"Today, the farm has 12 employees. We provide medical and dental insurance, and a pension plan. We treat them well so that they stay with us for a long time."

Philip and his wife Lori have three kids who also help out on the farm. The oldest, Logan, just graduated in agriculture from the University of Guelph. His second son, Cole, is also studying agriculture at Dalhousie University. The youngest, Marissa, is still in high school. She sometimes milks the cows and takes care of the broiler chickens produced by Sunny Point Farms.

"Sometimes I bring them to visit other farms, to see what is being done better elsewhere and how we can bring it back to our farm, mentions Philip. We don't know everything, it is important to continue to learn and to improve."

With kids who seem to want to follow in their footsteps, Philip says he is ready for new challenges. "We would like to grow, as soon as there is quota available. We need to generate more revenue if my kids want to get on board."

In the meantime, he continues to keep a watchful eye on his herd to ensure that his cows express their full genetic potential.



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FARM PROFILE

N & N Farm

Owners: Lee & Alma Noel
Cormack, Newfoundland

Number of Employees: 9
Hectares of Cultivated Land: 260
Number of Cows in Milk: 260
Housing: Free-stall



Passing The Torch to the Next Generation

It took years of hard work for N & N Farm to become the successful farm that they are today. The owners, Lee and Alma Noel are slowly making way for the next generation.

Lee Noel and his wife Alma both grew up on poultry farms. Shortly after they were married, they purchased a dairy farm in Cormack, on the Great Northern Peninsula of Newfoundland. In those days, they had around forty milking cows that each produced an average of 19 litres per day. Many expansions and improvements later, the farm now has 260 milking cows that produce an average of 41 litres of milk per day.

The cows are housed in a six row, free stall barn, bedded with sawdust. They are milked in a GEA double-8 milking parlour that was installed five years ago.

"We also have an activity monitoring system that helps a lot with day to day herd management" says Shawn Ruby, who manages the herd for N & N Farm.

Lee and Alma Noel also rely on the work of their two children, Matthew and Julia.

Continued

Major Projects

With Matthew and Julia ready to take over, the Noel's have also purchased another farm not far from the current facilities. "It came with 200 acres of extra land which we needed badly, as well as quota for 100 more cows", mentions Shawn Ruby.

The Noel's would like to install a milking robot, which, if all goes well, will be up and running by the fall.

These new facilities could also be used to accommodate heifers, which up to now, have been raised by a partner in Nova Scotia. "Having them with us, should allow us to be much more efficient, shares Mr. Ruby. We hope to reduce our average age at first calving from 26 months to 21 months."

Management Strategies

When Shawn Ruby arrived on the farm around fifteen years ago, he brought with him a new approach toward herd management and reproduction.

"They did not participate in classification or registration, back then, so that was the first thing on my list!" He recalls. As for reproduction, they already had nice animals but "I wanted to concentrate primarily on cows that were productive and strong, with good longevity."

Currently, N & N Farm have 16 "excellent" and 100 "very good" cows.

Shawn's objective is to have animals that continue to improve from generation to generation. "I also like to have a cow that has good numbers, that I can take to shows and turns heads", he says with a smile.

Lee and Alma Noel, now semi-retired, know that the farm is in good hands. "While our kids and our employees are caring for the herd, we can take advantage of the opportunity to spend time with our two – soon to be four – grandchildren!" says Lee.

Support is Crucial

Along with the Noel family and Shawn Ruby, the farm hires four local workers and four foreign workers from New Zealand. The latter are involved in the milking and field work, among other things. "It is really important to have good employees, stressed Lee. It is not a 9 to 5 job. If a cow is sick, she needs to be taken care of. It requires very motivated employees."



FARM PROFILE

Dock Road Dairy Farm

Owner: Kent Rennie

Union, Prince Edward Island

Number of Employees: 1

Number of Hectares Cultivated: 250

Number of Cows in Milk: 62

Housing: Free-stall



A Healthy Change

In 2013, after a fire destroyed their family farm in Union, Prince Edward Island, the Rennie's took advantage of the unfortunate event to review their production methods from A to Z. Now, almost eight years after switching to a robot milking system, they have no regrets.

"I had often considered changing to free stall housing, but I was hesitant, says Kent Rennie, the owner of Dock Road Dairy Farm. Today, I am so happy with it that I wish I had done it sooner."

Rennie appreciates the comfort that this type of production provides his animals. "The cows are more comfortable and they are in better health", he shares. The Rennie's opted for sand flooring for their barn. "The big difference with sand is that you can see mastitis cases more easily so the animals can be cared for more quickly." The two stall milking robot that they installed has also been good for Dock Road Dairy. "On average, our cows go to get milked three times a day. The really fresh cows can go up to five times", mentions Rennie.

Continued

Be Well Equipped

Kent knows what an important role good tools play in milk production performance. He uses the Lactanet transition cow index, which allows him to monitor his strategies more efficiently. "When transition goes well, the rest comes more easily, he maintains. Since we have been using it, our pregnancy rate has increased and everything is going well."

The dairy farm also uses GestaLab to monitor herd reproduction more closely. "I appreciate how quickly we get the results. It allows us to make adjustments and return to our breeding program."

The Rennie's reproduction strategy is actually quite straightforward. They choose animals that have good feet, solid legs and healthy udders. "We use sexed semen for the top 40% and Angus semen for the rest", adds Mr. Rennie.

Surrounded by Good Support

Kent took over the business from his parents. His father has now passed away, but his mother Eva is still involved with the farm.

Everyone who plays a role on the Dock Road Dairy Farm is part of the family. This is certainly the case for their full time employee who has worked on the farm for 26 years now. "He has worked here for longer than me", explains Mr. Rennie laughing, adding that he worked elsewhere before coming back full time on the farm.

The Lactanet advisor Rennie works with is also very important in his eyes. "He gives us precious advice, notably for dry cow management."

Although they do not intend to take over the farm, Kent's two sons are among those who provide a helping hand. With 62 cows in milk and close to 250 hectares being cultivated, all hands are welcome at Dock Road Dairy.



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FARM PROFILE

Hazelhill Farms

Owners: John Robinson & Derek Robinson

Sussex, New Brunswick

Number of Employees: 4

Number of Cultivated Hectares: 320

Number of Cows in Milk: 280

Housing: Free-stall



They've Got Flair!

The daily rhythm for the Robinson family, when it comes to their cows, is all about co-operating with trusted experts, working together and spending long hours in the barn. This is a portrait of Hazelhill Farm in Sussex, New Brunswick, a success story, generation after generation.

The evolution of a family farm is testimony to the care that its owners have given it over the years. "Early in the 1980's, a fire destroyed the original barn, explains, John Robinson, co-owner of the farm. My father (John E. Robinson) took advantage of the opportunity to rebuild a new, modern barn, one that was more comfortable for the heifers."

Since then, the Robinson's strategy has been fine-tuned and the herd has evolved. In 2007, the herd became so large that the owners — and the animals — felt cramped in the free stall barn that had been built in 1972. "It was time to build a new up to date infrastructure. We decided to go with a 200 stall, free stall barn, bedded on sand and equipped with a double 12 milking parlour", says John, who shares that he is satisfied despite the damage that the sand can sometimes do to the equipment.

Continued

Keep an Eye on the Prize

The secret to a high-performance herd? "We don't think it's really a secret: you need to observe, observe and observe some more", says John. "We spend an enormous amount of time in the barn with our cows. This allows us to detect even the most subtle of issues."

Strong legs and nice udders that give plenty of milk are what catch John and his brother Derek's eye when they evaluate the potential of a good cow. Moreover, at the slightest sign of a heat, the producers don't waste any time to move forward with insemination. They exclusively use semen that is more expensive and sometimes difficult to find, but which offers optimal performance.

"We cannot be experts in every area. That is why we like to work with our Lactanet advisor", adds Robinson. The Robinson family sets aside some time to discuss things with their advisor once a month. The advisor uses the milk test results to prepare accurate, detailed reports on cow performance and make recommendations.

"For example, he suggested that we make a change to our close up cow rations and it worked out very well. We are highly satisfied with the results that we have gotten since then", stresses John.

A Tightly Woven Team

Like his father before him, John Robinson Jr. thinks it is important to build on good family relationships at work. He and Derek are now partners; the fourth generation to run the farm.

"In 2016, when our father passed away, we had to push up our sleeves and continue to stand together as a family. Our mother, Elizabeth, still helps us on the farm. Our parents showed us the value of working together", says Robinson. A lesson that, to this day, continues to bear fruit.

"If each of us in the family did not put so much effort into it, we could never be able to achieve the same results, points out the producer. My wife Nicky helps us with the work on the farm, whereas my brother's wife Angela helps us with accounting and administration."

At Hazelhill Farm, there is a strong emphasis on succession planning. "Whether full or part time, our kids are all involved. They are an enormous help and have a very interesting vision and ideas. My son Josh, and Derek's son Marcus, both have diplomas from the Dalhousie University Faculty of Agriculture", John mentions with pride.

As for the 800 acres of corn grown on the farm, it is mainly John's brother-in-law that takes care of it, full-time. The farm also hires another full time worker to manage the milking.

From generation to generation, the Robinsons take exceptional care of their family business. "A farm that is well taken care of always gives back", concludes John.



Your Numbers Tell a Powerful Story

“ Three years ago, I might have looked at the SCC report within 2-3 weeks of the test. With the value that my Lactanet advisor is offering now through the interpretation of the data, we look forward to the arrival of the reports and immediately review them to help manage and monitor herd performance. ”

- ROBBIE MACGREGOR, MacGregor Dairy Farm Ltd., Churchville, NS



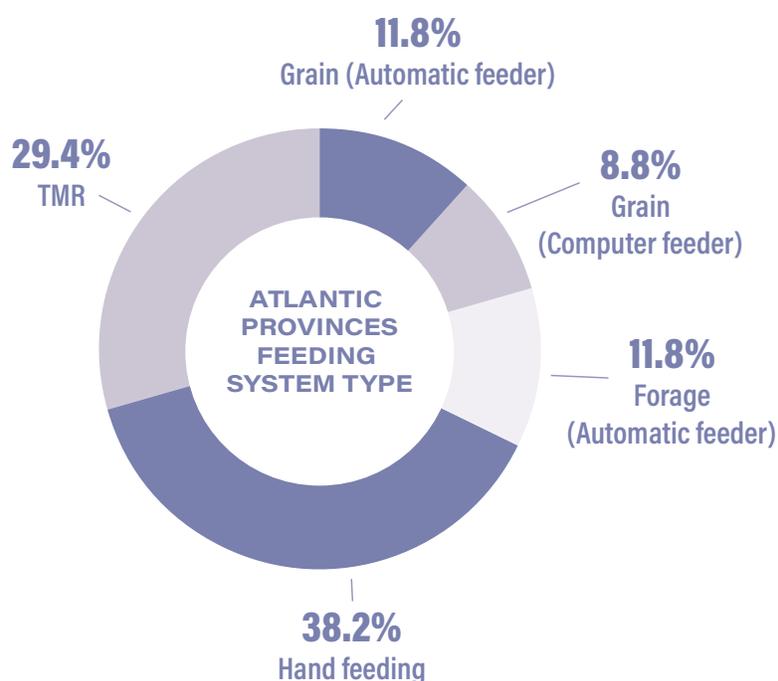
Portrait of Percentile Ranks for all Atlantic Herds

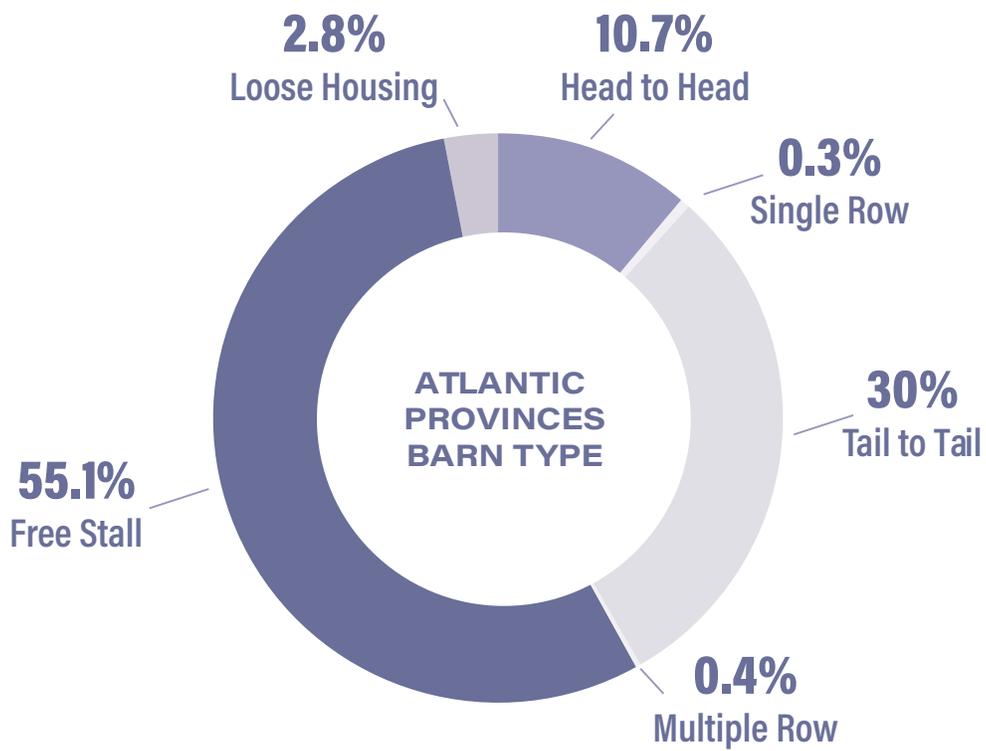
(Based on 2020 herd averages - 278 herds)

	Max*	90	80	70	60	50	40	30	20	10
Milk value/holstein (\$)	>10,853	9,212	8,572	8,143	7,882	7,509	7,138	6,701	6,350	5,898
POINTS**	500	462	394	324	272	202	142	89	60	36
Milk value/colored breeds (\$)	*	6,998	6,621	6,376	6,174	6,039	5,889	5,748	5,231	4,917
POINTS	500	375	316	274	229	202	171	149	83	52
Udder health	<62.1	105.2	125.0	148.8	165.8	180.0	195.0	217.8	248.6	285.8
POINTS	150	138	126	111	95	82	70	55	37	22
Age at 1 st calving (months)	<22.1	23.4	24.0	24.6	25.1	25.9	26.5	27.3	28.7	30.9
POINTS	100	88	75	60	46	30	22	15	8	4
Calving interval (days)	<393	388	394	399	405	412	418	427	438	471
POINTS	50	50	48	42	36	29	24	17	11	4
Longevity (%)	50.0-54.6	49.3	45.7	42.8	41.1	38.7	37.2	34.7	31.4	28.3
POINTS	100	99	91	76	65	50	42	30	17	9
Herd in milk (%)	86.2-90.2	89.8	88.8	88.0	87.3	86.8	85.6	84.8	83.3	80.9
POINTS	100	100	100	100	100	100	81	69	42	33

* No maximum value is included as no herds received the maximum score in the group of herds being benchmarked.

** From Herd Performance Index



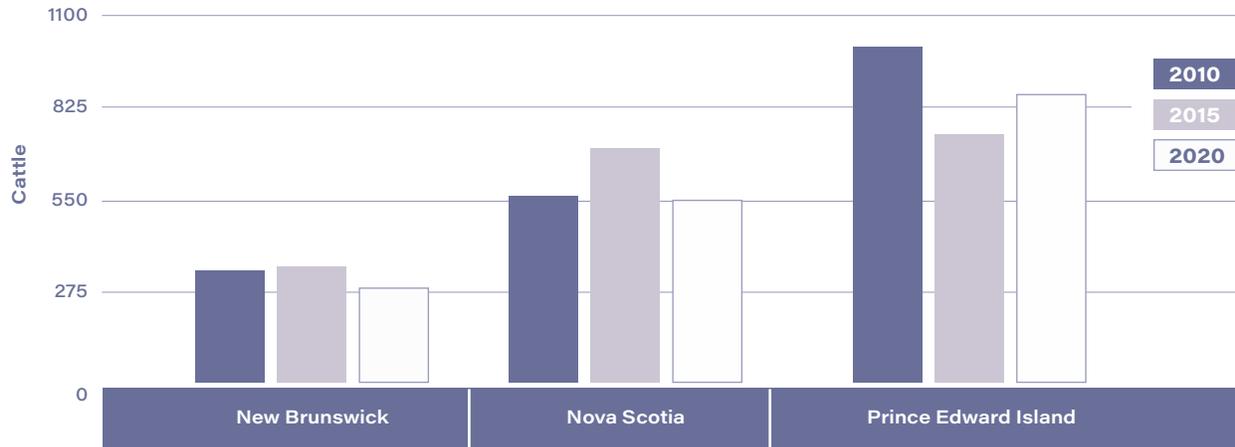


Provincial Statistics Herd Performance Index (HPI)

(Top 10 Scores of Atlantic Provinces)

New Brunswick								
Rank	Farm name	Points for Milk Value	Points for Udder Health	Points for Calving Age	Points for Calving Interval	Points for Longevity	Points for Cows in Milk in Herd	Herd Performance Index
1	Hazelhill Farms	457	108	64	50	80	100	859
2	Willie Leblanc & Sons Ltd	473	91	91	48	40	100	843
3	Lawrence's Dairy Farm Ltd	498	103	56	36	39	100	832
4	Clarke Farms	482	64	83	40	70	83	822
5	Pascobac Holsteins Inc	354	149	86	50	80	100	819
6	Everanne Holsteins	450	147	34	17	46	100	794
7	Ravenwood Holsteins Ltd	465	49	65	17	96	74	766
8	Schenkels Farms Inc	447	26	75	50	58	100	756
9	Waldow Farms Ltd	367	93	97	50	46	100	753
10	Top of the Morning Farm Ltd	368	64	88	50	82	100	752
Nova Scotia								
1	Sunny Point Farms Ltd	493	147	98	49	100	75	962
2	Black Avon Farms Ltd	489	131	95	50	38	100	903
3	The Udder Farm Ltd	474	133	55	50	78	100	890
4	Bokma Farms Ltd	493	70	90	38	93	75	859
5	West River Holsteins	459	80	100	46	67	95	847
6	MacGregor Dairy Farm Ltd	500	68	80	48	47	100	843
6	Betula Farms	432	107	83	22	99	100	843
8	Kipawo Holsteins 2011 Ltd	494	61	79	50	100	56	840
9	Bekkers Farm Inc	493	134	63	24	15	100	829
10	Curry Knoll Farms Ltd	489	78	79	45	29	100	820
Prince Edward Island								
1	Jewell Dale Farm Inc	496	130	80	50	60	100	916
2	Tiny Acres Holsteins	498	149	98	50	1	100	896
3	Crasdale Farms	496	115	91	33	44	100	879
4	Reeves Farm Inc	494	62	85	50	82	100	873
5	Carruthers Farms Ltd	496	123	96	44	1	100	860
6	Frizzells Farm Inc	491	121	48	50	49	100	859
7	Royalwater Holsteins	467	87	71	36	65	100	826
8	Abelaine Farms Inc	421	137	80	18	52	100	808
9	Port Hill Milking Company	467	68	61	50	57	100	803
10	Red Oak Farms	462	103	96	26	7	100	794
Newfoundland								
1	Sunrise Dairy Ltd	492	86	95	48	2	100	823
2	N & N Farm Ltd	487	64	39	39	52	56	737
3	Larch Grove Farms	445	15	47	39	28	100	674

Atlantic Provinces Live Cattle Movement



National Statistics

Milk Production (kg) per Cow per Province

	2019	2020
BC	10,294	10,309
AB	10,390	10,134
SK	10,671	10,525
MB	9,999	10,144
ON	9,755	9,923
QC	9,620	9,687
NB	9,251	9,277
NS	9,769	9,664
PE	9,680	9,856
NL	10,390	10,484

Somatic Cell Count ('000) Average by Province

	2019	2020
BC	185	179
AB	218	199
SK	223	192
MB	248	231
ON	238	208
QC	217	199
NB	213	192
NS	225	205
PE	205	161
NL	191	204

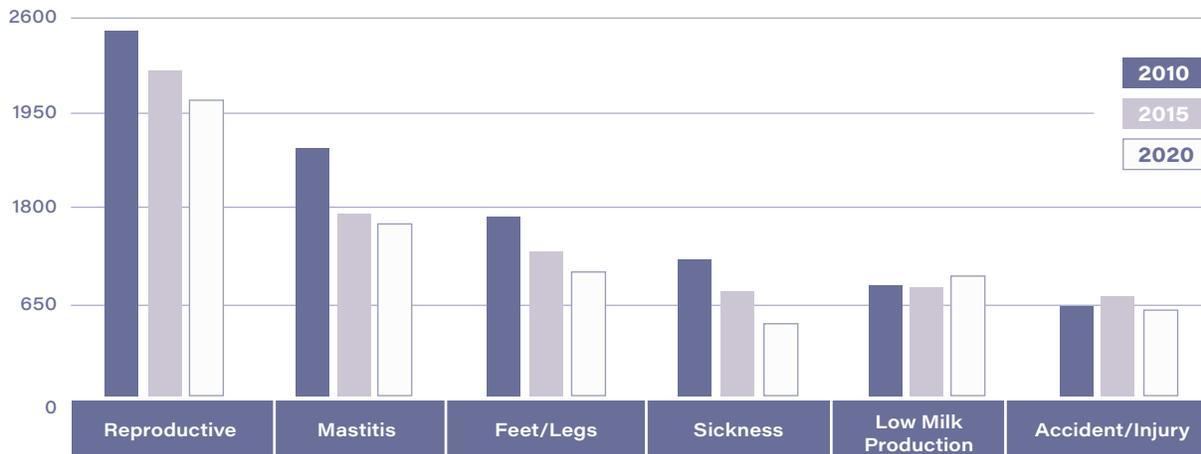
Dry Period (Days) Average by Province

	2019	2020
BC	68	69
AB	74	74
SK	81	82
MB	86	82
ON	70	68
QC	64	65
NB	67	67
NS	72	74
PE	77	75
NL	65	67

Calving Interval (Months)

	2019	2020
BC	14.0	13.9
AB	13.7	13.7
SK	13.9	14.0
MB	14.4	14.1
ON	13.8	13.8
QC	13.6	13.5
NB	13.7	13.7
NS	13.9	13.8
PE	14.1	13.9
NL	13.4	13.6

Atlantic Provinces Top Disposal Reasons



Provincial Statistics – 305-Day Production Average

Province & Service Level	Herds	Milk (kg)	Fat (kg)	Protein (kg)	BCA M	BCA F	BCA P	Avg BCA
New Brunswick								
Publishable	79	9,328	381	309	218	229	223	223.2
All	104	9,249	378	307	215	226	220	220.3
Nova Scotia								
Publishable	75	10,144	410	337	230	245	237	237.3
All	110	9,763	394	324	221	234	228	227.6
Prince Edward Island								
Publishable	75	9,950	408	328	224	246	232	233.8
All	91	9,813	402	324	220	241	228	229.7
Newfoundland								
Publishable	5	11,070	461	365	249	279	257	261.7
All	6	10,403	429	343	232	259	240	243.4

* For AY, HO & JE breeds, a minimum of 10 publishable lactations is required for a publishable herd average. All other breeds require 5.

Annual Provincial Herd Demographics – All Herds

Herd Size (Cows)	Herds %	Animals %	Average Herd Size	Average Milk Production	Average Fat Production (kg)	Average Fat Production (%)	Average Protein Production (kg)	Average Protein Production (%)	Average SCC ('000/ml)
New Brunswick									
1-39	8.4	2.3	29	8,127	341	4.20	277	3.41	196
40-79	47.4	26.2	61	8,905	363	4.08	297	3.34	189
80-119	16.8	15.5	103	9,625	393	4.08	325	3.38	206
120+	27.4	56.0	229	10,061	417	4.14	337	3.35	189
Nova Scotia									
1-39	8.9	2.4	26	7,591	310	4.08	259	3.41	267
40-79	44.6	25.9	58	9,365	378	4.04	315	3.36	208
80-119	25.7	25.0	97	9,550	383	4.01	320	3.35	210
120+	20.8	46.8	228	11,332	475	4.19	378	3.34	166
Prince Edward Island									
1-39	5.9	2.1	31	8,285	351	4.24	280	3.38	193
40-79	51.8	34.9	60	9,329	387	4.15	311	3.33	163
80-119	27.1	29.1	96	10,147	419	4.13	341	3.36	155
120+	15.3	33.9	199	11,732	479	4.08	393	3.35	153

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Quebec Holstein Herd Statistics Based on Milk Production – Feed Efficiency

(Quebec Lactanet customers with validated data for the 12 months ending at the last test prior to December, 2020).

Production (20% Rankings)	0-20¹	21-40	41-60	61-80	81-100	Total/Average
Number of herds	556	555	555	555	556	2,777
Number of cows in herd	62.5	69.5	76.5	82.8	93.9	77.0
PRODUCTION						
Milk (kg/cow/year)	7,924	9,336	10,063	10,709	11,753	9,957
Butterfat (kg/cow/year)	327	383	409	434	474	406
Butterfat (%)	4.13	4.10	4.06	4.06	4.04	4.08
Protein (kg/cow/year)	268	316	340	361	394	336
Protein (%)	3.38	3.38	3.38	3.37	3.36	3.37
SCC ('000/ml)	238	205	190	179	174	197
Linear score	2.6	2.4	2.3	2.2	2.1	2.3
Corrected milk ² (kg/cow/day)	29.6	34.2	36.5	38.6	42.0	36.2
DEMOGRAPHICS						
Culling (%)	33.4	33.7	34.8	34.5	36.9	34.7
Voluntary cull ³ (%)	4.3	5.1	6.0	5.9	8.0	5.9
Involuntary cull ³ (%)	18.1	18.6	19.7	19.3	20.1	19.2
Cows in lactation (%)	86.2	86.7	86.7	86.9	87.3	86.7
3 rd lactation+ (%)	41.4	41.8	41.7	41.5	41.0	41.5
Average age (months)	48	46	45	45	44	46
Average bodyweight (kg)	667	684	690	696	705	690
Age at 1 st calving (months)	27.0	25.6	25.0	24.6	24.4	25.3
Bodyweight at 1 st calving (kg)	615	629	639	645	651	638
REPRODUCTION						
Calving interval (days)	430	412	407	402	402	411
Days in milk at 1 st breeding	84	77	75	73	75	77
Breedings/cow/year	2.12	2.20	2.24	2.25	2.24	2.21
Days dry	68	64	64	63	62	64
Days open	150	132	127	122	122	131
Milk value (\$/cow/year/all herds)	6,031	6,987	7,459	7,910	8,647	7,407
FEED & COSTS						
Number of herds with feed	121	122	122	122	121	608
Milk value (\$/cow/year) (herds with feed)	6,227	7,062	7,481	7,893	8,543	7,441
Milk (kg/cow/year) (herds with feed)	8,337	9,484	10,090	10,702	11,614	10,046
Margin over feed cost (\$/cow/year)	4,001	4,697	5,064	5,463	6,012	5,047

Continued

Production (20% Rankings)	0-20²	21-40	41-60	61-80	81-100	Total/Average
Feed cost (\$/hl)	27.16	25.61	24.63	23.82	23.14	24.87
Forage cost (\$/cow/day)	2.89	2.98	3.02	3.07	3.09	3.01
Concentrates cost (\$/cow/day)	2.97	3.31	3.38	3.44	3.73	3.37
Minerals, vitamins & additives cost (\$/cow/day)	0.31	0.33	0.37	0.41	0.46	0.37
Forage milk ⁴ (kg/cow/year)	2,833	3,405	3,785	4,125	4,515	3,788
Forage (kg dry matter/cow/year)	5,153	5,301	5,481	5,671	5,733	5,468
Concentrates (kg dry matter/cow/year)	2,452	2,682	2,666	2,815	2,848	2,693
Total dry matter intake (kg/cow/year)	7,604	7,984	8,148	8,486	8,582	8,161
Energy supplement (kg dry matter/cow/year)	1,836	1,954	1,843	1,924	1,836	1,879
Protein supplement (kg dry matter/cow/year)	616	729	823	891	1,012	814
Feed efficiency ⁵	1.14	1.25	1.27	1.29	1.38	1.26
Standard milk/concentrates ratio ⁶	3.09	3.20	3.38	3.35	3.56	3.32
Concentrates cost (\$/hl)	14.35	14.03	13.61	13.22	13.30	13.70
Milk value (\$/hl)	77.05	76.75	76.43	76.03	75.84	76.42
Margin over feed cost (\$/hl)	49.88	51.14	51.80	52.21	52.70	51.55
Margin over feed cost (\$/kg butterfat)	11.76	12.13	12.37	12.56	12.73	12.31

¹ The 0-20 ranking gives the average of the 20% of herds with the lowest milk production, etc.

² Corrected milk is adjusted to 2nd lactation, 150 days in milk, 4.0% fat and 3.35% protein.

³ The category "Other" is excluded from these fields.

⁴ Based on energy and protein.

⁵ The calculation (standardized milk kg/dry matter kg) includes all cows (not just milking cows).

⁶ As fed.



WASTING NUTRIENTS IS LIKE THROWING MONEY OUT THE WINDOW!

“Milk urea nitrogen testing is an excellent tool. As a nutritionist, it helps me to prevent overfeeding of protein, which saves money on the farm. Also, it helps me fine tune rations in case I am underfeeding fresh cows. I recommend it on a regular basis, as the value provided far outweighs the cost.”

- DANIEL SCOTHORN, SCOTHORN NUTRITION*



I choose to put
“Mun-ey”
in my pocket!



MUN BENEFITS

- Results by stage of lactation
- Cow by cow results for an individual follow-up
- Identification of the out-of-range cases
- Comparison with the breed average performance
- Test done with your milk recording sample
- Results available 48 hours after the test

MUN ANALYSIS

MUN analysis is a great indicator of the efficiency of protein use from a ration. The higher the concentration of urea, the larger the proportion of wasted feed protein, and the more excretion of nitrogen there is in the urine.

MUN values below 8 will result in lower production, probably due to a lack of protein availability in the rumen. Values higher than 14, however, will not translate into higher production.



NEGATIVE EFFECTS OF HIGH MUN

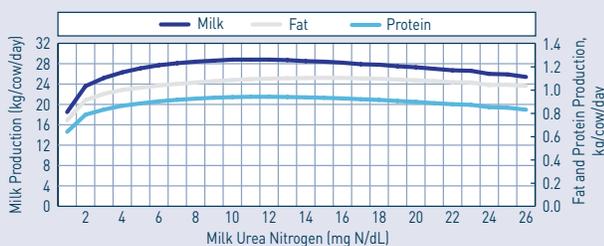
- Wasted money due to unnecessary feed costs
- Low production and low protein
- Loss of profit due to reproduction problems:
 - Embryotic death
 - Irregular intervals between breeding
 - Impact on heifer replacement



NEGATIVE EFFECTS OF LOW MUN

- Lower production
 - Increased feed cost due to higher protein requirements
 - Poor rumen health (acidosis and limited microbial population)

MILK, FAT AND PROTEIN PRODUCTION VERSUS MUN



High values reveal a less than optimal use of feed protein, and consequently, significant nitrogen waste.

Atlantic Holstein Herd Statistics Based on Milk Production Level

(Average by 20% Milk Production Groups)

Production (20% rankings)	0-20	21-40	41-60	61-80	81-100	Total/Average
Number of herds	51	51	51	51	51	255
Average herd size (cows)	72.0	78.8	90.4	119.1	177.4	107.6
Milk (kg/cow/year)	7,661	8,943	9,883	10,691	12,281	9,892
Fat (kg/cow/year)	304	359	407	438	503	402
Fat (%)	3.97	4.01	4.11	4.10	4.10	4.06
Protein (kg/cow/year)	252	298	329	359	410	330
Protein (%)	3.30	3.33	3.33	3.36	3.34	3.33
SCC ('000/ml)	213	205	171	164	181	187
Linear score	2.5	2.3	2.1	2.1	2.1	2.2
Corrected milk ¹ (kg/cow/day)	27.8	32.6	36.0	38.6	44.2	35.9
Culling (%)	36.3	34.8	38.2	38.8	40.4	37.7
Voluntary cull ² (%)	8.4	9.0	9.1	8.2	11.4	9.2
Involuntary cull ² (%)	19.3	17.8	20.0	23.4	22.2	20.5
Cows in lactation (%)	85.8	84.9	85.9	86.5	87.1	86.0
3 rd lactation+ (%)	37.8	38.7	37.6	38.4	38.3	38.2
Average age (months)	48	48	44	44	42	47
Age at 1 st calving (months)	28.9	27.5	25.8	25.3	24.1	26.3
Calving interval (days)	446	431	420	404	399	420
Days in milk at 1 st breeding	91	91	86	82	79	86
Breedings/cow/year	1.80	1.90	1.96	1.88	2.05	1.92
Days dry	72	75	77	69	63	71
Days open	166	151	140	124	119	140
Milk value (\$/cow/year)	5,605	6,578	7,359	7,999	9,253	7,359

¹ Corrected milk adjusted to 2nd lactation, 150 days in milk, 4.0% fat & 3.35% protein.

² Categories of "Unknown" and "Other" are excluded from this field.

There is **big money** involved in dairy production planning!



The quota constitutes the most important part of a dairy farm's market value.

Ask your technician about **PLANI-LACTA**
or call **1-800-266-5248**

What does it do for you?

- Keep track of pregnancies, animals entering or leaving the herd, and the true output from your cows.
- Get a precise estimate of total milk production in the coming months.
- An ideal way to anticipate problems and find solutions before they arise.
- A flexible tool to help you to optimize the use of quota over the course of the year.

Dairy production planning is like driving a car!

You keep your eyes on the road a good distance ahead of you and you make frequent small adjustments instead of making sharp turns, accelerating at the last minute and slamming on the brakes. All things considered, it's less stressful, much safer and somewhat easier on the pocketbook!



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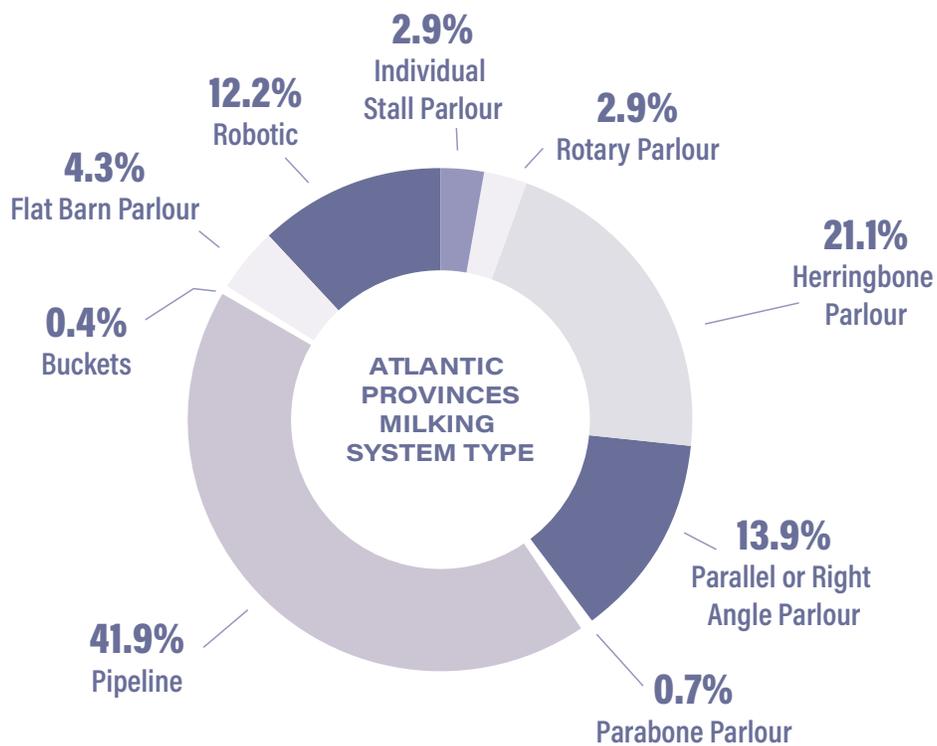
2020 Management Center Benchmarks

Measure	New Brunswick				Nova Scotia				Prince Edward Island				Newfoundland			
	Percentile				Percentile				Percentile				Percentile			
	25th	50th	75th	90th	25th	50th	75th	90th	25th	50th	75th	90th	25th	50th	75th	90th
Annual milk value (\$)	6,154	7,016	7,944	8,684	6,382	7,255	8,423	9,338	6,347	7,515	7,996	8,918	6,707	9,195	10,666	11,271
SCC ('000/ml)	235	189	149	112	256	191	150	112	201	151	110	89	209	185	156	135
Udder health (SCC linear score)	2.6	2.3	2	1.8	2.6	2.3	1.9	1.6	2.5	2.1	1.8	1.5	2.2	2.1	2	2.0
Age at 1 st calving (months)	27	25	24	23	27	25	23	23	27	25	24	23	26	25	23	22
Calving interval (months)	13.9	13.4	13.1	12.8	14.2	13.5	13.0	12.5	14.4	13.6	13.1	12.6	13.2	13.0	13.0	12.9
Longevity (% of herd in 3 rd lactation)	35	41	45	51	35	39	44	49	29	36	41	44	23	34	37	44
Herd efficiency (% of cows in milk)	85	87	88	90	84	87	88	90	83	87	89	91	85	87	88	89
Herd turnover (% of cows removed)	39	34	28	22	43	35	29	20	48	39	32	26	52	31	27	25
Number of cows	56	74	123	189	55	71	112	158	54	72	96	134	137	208	224	266
Management milk (kg)*	31	35	39	42	31	36	40	45	34	36	40	44	28	39	44	46
Days dry	73	65	59	54	80	67	59	54	84	70	57	52	73	58	54	53
Days to 1 st breeding	92	83	76	71	96	85	76	72	97	82	72	65	84	76	65	63

*Management milk measure: brings age, stage of lactation and energy-corrected milk to a standard number for comparison purposes.

National Statistics – Dairy Herd Statistics by Province

Province	Recorded Herds		Recorded Cows		Average Herd Size		"% Herds > 100 Cows"	% Recorded Herds
	2019	2020	2019	2020	2019	2020		
Newfoundland	6	6	1,177	1,277	196.2	212.8	83.3	27.6
Prince Edward Island	89	85	7,803	7,697	87.7	90.6	24.7	58.6
Nova Scotia	112	101	11,348	10,224	101.3	101.2	33.7	57.0
New Brunswick	102	95	10,906	10,631	106.9	111.9	37.9	61.8
Quebec	3,403	3,180	249,917	243,326	73.4	76.5	17.8	71.9
Ontario	2,430	2,286	220,784	208,504	90.9	91.2	26.4	69.0
Manitoba	154	147	26,811	26,781	174.1	182.2	57.1	56.2
Saskatchewan	77	79	14,578	15,768	189.3	199.6	78.5	50.3
Alberta	326	308	53,065	50,423	162.8	163.7	73.7	61.0
British Columbia	251	235	49,238	45,741	196.2	194.6	65.1	49.9
CANADA	6,950	6,522	645,627	620,372	92.9	95.1	27.5	67.8



Lactanet-Atlantic Production & Management Averages

(December 2020)

Breed	Average	10th Percentile	90th Percentile	Average	10th Percentile	90th Percentile
Milk Production (kg)			Fat (kg) (%)			
Holstein	9,889	7,921	12,237	402 (4.06)	317 (3.81)	499 (4.34)
Ayrshire	7,084	5,592	8,444	300 (4.24)	239 (4.05)	365 (4.39)
Jersey	6,903	6,387	7,617	349 (5.05)	313 (4.87)	388 (5.27)
All Breeds	9,665	7,568	12,070	396 (4.10)	308 (3.82)	496 (4.40)

Age at 1st Calving (months)			Kg Protein (%)			
Holstein	26	30	23	330 (3.33)	259 (3.19)	409 (3.46)
Ayrshire	28	31	25	237 (3.35)	182 (3.24)	277 (3.45)
Jersey	26	28	23	263 (3.81)	241 (3.72)	286 (3.93)
All Breeds	26	30	23	324 (3.35)	249 (3.20)	405 (3.50)

Weight at 1st Calving (kg)			Average Herd Weight Including Cow-Heifers (kg)			
Holstein	609	530	670	668	617	714
Ayrshire	**	**	**	**	**	**
Jersey	**	**	**	**	**	**
All Breeds	609	530	670	668	617	714

Longevity (% 3rd Lactation plus)			Margin Over Feed Cost (\$/cow/year)*			
Holstein	38.2	27.8	49.2	4,935	3,377	6,359
Ayrshire	50.1	42.3	58.9	**	**	**
Jersey	44.8	30.8	59.2	**	**	**
All Breeds	38.9	28.1	50.4	4,756	3,312	6,350

SCC ('000/ml)			
Holstein	186	285	101
Ayrshire	196	314	123
Jersey	221	331	149
All Breeds	188	291	105

Other Parameters (All Breeds)			
	Average	10th Percentile	90th Percentile
Cows in Milk (%)	86	81	90
Replacement Rate (%)	37.5	22.3	50.7
Dry Period (days)	72	93	53
Calving Interval (days)	420	467	388
Linear Score	2.3	2.9	1.7

* Milk value minus feed cost.

** A minimum of 5 herds is required to calculate an average — this minimum is not met.

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