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Evaluating production

The numbers have a lot to say

Ferme Lesbertrand A prefix to discover

The MCF herd Production coupled with instruction



BY MICHEL DOSTIE Editor

Translation by Nicole De Rouin



Lesbertrand A prefix to discover

onald Bertrand discovered his passion for dairy shows with the young farmers' group, and that led to a passion for breeding. At the young age of 15, he was already responsible for managing his father's herd. Now he and his partner, Nancy Brisson, and their son Guillaume operate the farm.

Wishing to encourage his son, Georges Bertrand, who already owned a few purebred animals, acquired *Embryobec Lisa Valiant*, at the age of three months. Classified GP-83-2yr 2*, *Lisa* has since grown into a brood cow for the Lesbertrand herd.

Lisa is the dam of five daughters, three of which are classified VG. Among them, *Lesbertrand Astre Ella*, VG-86 3*, was Junior Champion at the Pont-Château show, in 1994. And it was one of *Ella's* daughters, *Lesbertrand Sky Allie*, EX 3E 3*, that became the first animal registered under the farm's prefix to be classified EX. A good part of the current herd originates from one of the family's fourth-crop descendants, *Lesbertrand September Almi*, EX 2E 2*, a daughter of *Allie*. *Almi* has one Superior Lactation award along with a lifetime production of 96 786 kg of milk in six lactations. She is also the dam of nine daughters, classified 4 EX, 2 VG and 3 GP.

One of *Ella's* sisters, *Lesbertrand Raider Lila*, VG-88 2*, also contributed to the family's success, in particular through her granddaughter *Lesbertrand September Lalade*, VG-86-3yr 2*, Honourable Mention Tout-Québec Summer Yearling in 2006. One of *Lalade's* daughters, *Lesbertrand Dundee Lalime*, VG-2yr, co-owned with Joël Lepage, won Junior Champion at both the Spring

LESBERTRAND

Number of head: 120, including 57

Production: 11 366 kg of milk, with 3.94% fat and 3.23%

Quota: 80 kg BF/day

BCAs: 246-266-255

Classification: 4 M EX, 7 EX, 39 VG and 15 GP

Crops: 27.3 ha seeded to corn, including 15 ha for silage, as well as 20 ha seeded to malting barley for straw, 29 ha to alfalfa for silage, and 21 ha to grain hay, fed mostly to the yearling heifers and dry cows.

Show and the Eastern Championship, in addition to first Summer Yearling and Reserve Junior Champion in Toronto, in 2008. According to Donald Bertrand, *Lalime* is the cow that has really drawn attention to the herd.

The family of *Lesbertrand Outside Rota*, EX-93 7E 3*, the second cow with their prefix to be classified EX, also played a major part in the herd's development. *Rota* lived to the age of 14, producing 142 675 kg of milk in nine lactations, with 4.7% fat and 3.4% protein. Her four daughters include *Lesbertrand Fever Fiesta*, EX-91, and *Lesbertrand Pagewire Rotalie*, VG-88, a cow that earned two Superior Lactation awards.

The herd has also been influenced by Delaberge Bronco Rêve, VG-2yr 3*, purchased for the highest price at the Vente Mentorat at the Holstein Québec Convention in 2013. Three of her daughters are now in the herd, among them Lesbertrand Hatley Princesse, VG-87-3yr, a high-yield cow, with BCAs of 286-306-276, that won second in the Senior Two-Year-Old class in Ormstown in 2016. Unfortunately, Princesse left the herd at a young age following an accident, but did produce a daughter, Lesbertrand Abbott Priscilla. For Donald Bertrand, acquiring a cow like Rêve was the dream come true that enabled him to integrate genomics in his breeding and follow in the footsteps of Luc Laberge, an outstanding breeder in his eyes.

Able to bounce back

In 2015, for reasons unrelated to farm management, mycotoxins in the herd's feed greatly affected milk production, with average yield per cow falling from 12 500 kg to 9 000 kg. On top of that, a number of cows perished or had to be removed from the herd. Encouraged by their children, the breeders rolled up their sleeves and purchased a few



Lesbertrand Impression Amir, VG-87-3yr, granddaughter to Lesbertrand September Almi, ensures the continuity of her line and holds much promise for the future.

new animals, one of which was *Blondin Armani Bikini*, VG-88-3yr, a daughter of *Aingers Advent Bambi*, EX-94 2E 1*, Intermediate Champion in Toronto, in 2013, and Tout-Québec and All-Canadian Senior Three-Year-Old the same year. Thanks to embryo transfers, *Bikini* has already added a number of heifers to the herd. Moreover, adds Donald, "she has opened the doors to the embryo markets, and many have already been sold in Europe."

The Bertrands also acquired *Blondin Goldwyn Bloody*, EX, a daughter of *Pierstein Leadoff Berthe*, EX-91 2E 14*. In 2003, *Berthe* won Reserve Tout-Québec and was nominated All-Canadian Four-Year-Old. She is the dam of 38 daughters, 92 per cent of which are classified GP or better.

With production now back at more than 11 000 kg, the herd has almost recovered its former level. The breeders are once again able to sell their animals locally, with about 20 animals sold each year. In addition to the demand for embryos, the demand for animals from their herd has revived in other regions as well.

A focus on longevity

Through careful selection, the Bertrand family aims to breed cows that with good longevity and yields of 100 000 kg and more. The focus is thus on production, but the breeders are also looking for attractive cows with high-quality feet, legs, udders and rumps. Hence, the sires, of which 30 per cent are proven bulls, are chosen from well-known families and must have an evaluation of +15 for conformation and a proof of at least 500 kg milk. Particular attention is also paid to heath and fertility criteria.

The breeders also count on embryo transfers for genetic improvement in the herd. They expect to do four or five flushes this year, perhaps more. In any case, sexed semen is preferred.

Animal comfort is another of the breeders' priorities. The cold barn built for the yearling heifers has resulted in more space for the milking cows. With the new facility, explains Donald, the heifers are easier to breed and are calving as young as 23 or 24 months.



Success in the showring

Encouraged mainly by Chantal Charrette when he was involved with the young farmers' group, Donald has always enjoyed taking part in shows. His son Guillaume shares that passion and intends to keep up the practice. After a modest début at the Pont-Château show, the Lesbertrand farm now shows its animals in Ormstown as well. And when their animals demonstrate real potential, the breeders don't hesitate to show them in the more prestigious shows. Christian The construction of a cold barn for the yearling heifers has given more space and comfort to the milking cows and improved the breeding rate among the younger animals.

Roberge, an experienced cattle fitter and friend of the family, has also given Donald a lot of confidence by encouraging him to show a number of his animals. Besides that, adds Donald, "shows, even those we don't take part in, are an excellent place to build up a network of contacts. It's important to be there."

The only thing missing is a Master Breeder shield

Donald is the fourth-generation operator of this family farm in Saint-Polycarpe, in the western Montérégie area. His father, Georges Bertrand, began breeding Holsteins in 1976. Initially, Donald's partner, Nancy Brisson, a legal secretary by profession, had no interest in agriculture, but she gradually developed an affinity for the farm. Today, Donald and Nancy are equal shareholders in the operation.

Adding to the renown acquired in Toronto, thanks in particular to *Lesbertrand Dundee Lalime*, the open house event during the 2017 Holstein Québec Convention in Vaudreuil did much to boost the recognition of the herd. Much to the breeders' surprise, the feedback they received from the many visitors to the farm confirmed that they are on the right track. This was welcome encouragement for Donald, who says he has always strived to "follow the best." He is thinking in particular of two influential breeders in his area who have helped him in the past, namely André Campeau and Denis Legeault.

Succession is assured for the Lesbertrand farm, and the couple has already begun the transfer process to make way for their son Guillaume, who has a DVS in dairy production. For now, Guillaume divides his time between the family farm and the show circuit. The couple also counts on a Guatemalan employee to help with the work. George Bertrand, now 82, continued to help with the farm work up until two years ago. Donald and Nancy also have two other children, David, aged 17, who is studying sciences and communication in cegep, and Josiane, 14, in Secondary III.



Nancy Brisson, Donald Bertrand and their three children (from left): Guillaume, David and Josiane.



BREEDER PROFILE

BY MICHEL DOSTIE Editor

Translation by Nicole De Rouin



The MCF herd The dairy cows of Macdonald College

Gill University's Faculty of Agricultural and Environmental Sciences owns a farm on the Macdonald College campus, in Sainte-Anne-de-Bellevue, where a dairy herd bearing the prefix MCF (Macdonald College Farm) makes its home.

Chantal Charette, herself a graduate of Macdonald College, has been the Dairy Herd Manager there since 2015. She is in charge of operating the herd and ensuring its efficiency and profitability, much as if the herd were her own, she explains. But this operation has a number of functions that distinguish it from other dairy farms.

Firstly, academic work is done here, with students studying both animal performance and herd management. The farm is intended to set an example for students and help them develop good work practices, says the herd manager.

Applied research is also conducted on the farm, on different subjects including feeding. Additionally, the farm is working to improve animal comfort in its tie-stall barn, in conjunction with the proAction initiative implemented by Dairy Farmers of Canada (DFC). On top of its education and research commitments, says Chantal Charette, the herd must maintain good production.

Finally, the farm is also responsible for disseminating information to consumers. In that context, between three and four thousand people visit the farm each year, either during the open house day organized by the municipality, or with school and daycare groups, or for summer camps. The farm has also taken part in the UPA's open house event.

The herd

The Macdonald College herd comprises a number of dairy breeds: Holstein, Jersey, Brown Swiss and Ayrshire. In the Holstein sector, two brood families are particularly appreciated. The first is the family of *Ginary* Goldwyn Trixi, EX 2E, that has five living generations now active in the herd. In six lactations, Trixi produced 67 058 kg of milk, with 4% fat and 3.3% protein. Her third- and fourth-generation descendants include MCF Doorman Thisania, VG-87-2yr, with BCAs of 294-347-313 for her second lactation, and *MCF Elude Tickle*, VG-86-1yr, with a projected vield of 9585 kg (259-291-272) at 1 year and 8 months. This family holds a special place in Chantal's heart. In 2012, when Paul Meldrum, the farm's General Manager, acquired Trixi, Chantal was there and remembers suggesting that the farm buy the animal. She thus takes a certain pride in developing that family today.

She also has high regard for the family of *MCF Scar Pineapple*, VG 2*, a cow that produced 49 448 kg of milk in four lactations. *Pineapple* is the dam of three daughters classified GP or better, a group that includes *MCF Larson Prim*, EX 2E, with a yield of over 43 000 kg in three lactations, and *MCF Adonis Pine Cone*, VG-86-3yr, with a Superior Lactation and average BCAs of 329-320-321 after three lactations.



Desjardins Caisse de Vaudreuil-Soulanges er Babereer l'avenir

Cédric Grégoire, a student at Macdonald College, proudly leads *MCF Lautrust Tadja*, daughter to *Ginary Goldwyn Trixi*, at a young farmers' show in 2018.

Lastly, the family of *MCF Stanleycup Alouette*, EX, represents the herd's future. Although *Alouette* now belongs to Ferme Monréal, her two daughters, *MCF Dark Audrey*, EX-91, and *MCF Dean Alice*, VG-2yr, ensure the continuity of her line.

Rigorous selection

The first heifers originating from Chantal Charette's selection programme have just given birth to their first calves. One of those heifers is *MCF Elude Tickle*, VG-86-1yr, a daughter of *Thisania*. Various factors are

THE MACDONALD COLLEGE HERD

Number of head: 135, including 80 milking cows of four dairy breeds

Holstein yield: 12 208 kg, with 3.9% fat and 3.28% protein Holstein BCAs: 267-282-277

Quota: 100 kg BF/day

Overall herd classification: 5 M EX, 3 EX, 35 VG, 37 GP and 6 G



McGill University's Macdonald College farm occupies a good part of the campus, which also includes the Faculty of Agricultural and Environmental Sciences, the School of Human Nutrition, and the Institute of Parasitology.



A part of the team behind the MCF herd at Macdonald College (from left): Nicolas Vermette, employee, Chantal Charette, Herd Manager, Natasha Lapointe, employee, and Paul Meldrum, General Manager of the Macdonald campus farm.

taken into consideration for herd selection. First, 30 to 35 per cent of the lower performance cows are bred with beef sires. As for the rest of the herd, 15 to 20 per cent of the Holsteins are inseminated with semen from proven bulls, and the others with genomic young bulls. The sires are selected primarily from Immunity+, and all must have a milk proof of at least 1000 to 1200 kg, with positive differentials for fat and protein. For conformation, Chantal looks for wellbalanced animals, with an emphasis on rump angle, teat placement and rear legs. Classification is also an important component and, according to Chantal, is an indispensable tool for anyone looking to ensure herd longevity. Embryo transfers are used on the farm as well, with one or two cows flushed each year.

Milk production is on the rise and the aim is to maintain an average of 12 500 kg. Likewise,

the TPI, calculated by Valacta, is now at 97 and should soon reach 99. To manage udder health, Chantal Charrette insists on a milk culture at the seventh milking to detect the presence of Staphylococcus aureus. Susceptible cows are milked last and an appropriate treatment is initiated. Chantal recommends that all producers use this test.

To reach the production targets, the herd is fed a TMR composed of corn silage, alfalfa silage and soybean meal. This means that Chantal Charette is also involved in crop management, including harvest and storage operations.

Replacement animals are well-treated

With the goal of having heifers calve at 22 months, much attention is paid to their feeding. Colostrum is tested and must have

Holstein Québec and agricultural schools

Summary of Holstein Québec's policy regarding annual membership fees for school farms that own dairy herds:

Holstein Québec aims to support the education of young people in agriculture and assist schools in developing youth and demonstrating to them the advantages of working with registered and classified Holstein animals. Accordingly, the board of directors has approved the reimbursement of annual membership fees for agricultural schools that have a school farm with Holstein animals and that respect certain conditions, such as bringing in a Holstein advisor for a workshop on the subject of the breed, genetics or services offered by Holstein Québec. This agreement is renewable on a yearly basis, and the conditions of eligibility may be revised at that time. an IgG reading of 22. Powdered or frozen colostrum is used when necessary. The calves receive milk until the age of eight weeks, meal is fed as of 24 to 36 hours, and a second-cut hay is also on the menu. At the age of six months, a TMR is gradually introduced and the calves are weighed regularly. Comfort is another concern, so ample bedding is provided and drafts are kept to a minimum. Daily tasks also include careful observation, and respiration is monitored closely.

Around the age of 8 to 10 months, a selection process is carried out. Chantal would rather remove one heifer too many, even if it means buying another later. She point outs that pregnant heifers and dry cows are boarded off-farm, which implies additional costs.

A team effort

To achieve results, Chantal Charette counts on a team of three permanent employees, one part-time employee, and student workers, who share the work. She says that while she is demanding of her staff, in order to tap into their individual potential, she also listens to their concerns, which generates good team spirit. Moreover, she doesn't hesitate to ask for advice from the various specialists who visit the farm, be they from Ciaq, the feedmill, Valacta or Holstein Québec. In this sense, as in all aspects, she affirms that she has carte blanche from management.



Chantal Charette with her mentor, Tom Byers, who worked as head classifier at Holstein Canada and was given the title of ambassador for the Association when he retired. For Chantal, Mr. Byers represents, after her parents, the person who most "believed in my potential and helped me move forward."



BY MICHEL DOSTIE Editor

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Evaluating milk production The numbers have a lot to say

or some time now, producers have been using information on milk production to compare their animals. In order to improve farm profitability, producers want to know how productive each of their cows is. They also want to know how each animal ranks in their herd, as well as how they compare to other dairy cows in Quebec and Canada, and even outside the country. Through genetic evaluations, producers' efforts in this regard benefit the whole community.

This interest in benchmarking is a longstanding one. In the 1950s, Canadian milk recording officials developed a comparative method - BCAs or breed class averages that is still in use today. The aim of this system was to evaluate every dairy cow in the country that was enrolled on the official milk recording program of the time, the Record of Performance (ROP), then managed by the federal government. Over a three-year period, production standards were determined for cows of each of the dairy breeds in the country, for a 305-day lactation and for each calving age between 18 and 200 months and each month of the year. An average of 100 was attributed to the values thus established. Accordingly, the production values of all the cows for the same period were given two initial BCAs, one for milk and the other for fat. Protein was added in 1984, leading to the three BCA values that are in use today.

Under this system, two cows that have produced the same quantity of milk, say 10 000 kg, but started their lactation at different ages, one at 24 months and the other at 48 months, will have different BCAs, with the younger cow having a higher score. The BCAs would also differ if the cows had calved at different times of the year.

Of course, this calculation dates back at least 60 years, and today's cows are obviously producing more milk than their predecessors, which explains why we are now seeing BCAs of 250 or even 300. Nevertheless, the benchmark retains its worth, as much for individual cows as for herds. A present-day herd that has BCAs of 250-250-250 appears to be better than a herd with BCAs of 225-225-225, although this apparent superiority may be attributable as much to genetic potential as to herd management. Dr. Robert Moore, Valacta's Scientific Manager, mentions that the system has been updated since its inception. The eligibility rules for cows were revised in 1988, and the standards for calving age and calving month were adjusted for Holsteins in 1994.

According to Brian Van Doormaal, at the Canadian Dairy Network, the advantage of this system, unique to Canada, is that in one glance the productivity of an animal or a herd is known.

The composite BCA, equal to the sum of the BCAs for milk, fat and protein, is the measure that Holstein Québec uses to determine which cows will be awarded the various annual production trophies by age group. Valacta also uses the three BCAs to calculate the Total Performance Index (TPI).

Deviation

With the BCA system comes the concept of deviation. This comparison method calculates the difference between each cow's BCAs and the average BCAs for the animal's herd. As Brian Van Doormaal explains, this means that a cow with a deviation of + 50 should theoretically maintain this difference in another herd. But because an animal may react differently in a new environment or to changes to herd management or feed, this doesn't always hold true in practical terms.



Dairy producers need to know the exact quantity of milk produced by each cow in their herd.



Milk samples provide a lot of information about the milk produced on the farm.

Holstein Québec uses the sum of the three deviations for each of the three consecutive lactations leading to a Superior Lactation certificate to bestow its yearly Super 3 award.

Mature equivalent

Recording yields on a mature equivalent basis follows the same reasoning. Calving age and calving month are thus taken into account in an animal's official production, which is projected to the age of seven. For breeders in other countries, this system is easier to comprehend than the BCA system.

For genetic evaluations

When it comes to genetic evaluations, however, Brian Van Doormaal explains that neither BCAs nor mature equivalents are used. These systems compare production data between all the cows of a same age at the same period of the year for the entire country, meaning that production is influenced by many variables other than genetic potential. In genetic evaluations, such external factors are excluded by limiting data collection to one same herd where all of the cows are subjected to the same herd and feed management. Accordingly, test day data collected for milk recording are used to



Annual fat production is improving yearly, but seasonal variations seem likely to persist.

Le **top** de la classe!



Table 2

Productivity varies greatly from one herd to the next (kg fat/lactating cow/day)



In the summer of 2017, only 271 Quebec herds produced 1.5 kg or more of BF/cow/day, equivalent to 6.8 per cent of the 4010 herds on milk recording.

Dr. Robert Moore honoured

The Canadian Dairy Network (CDN) selected Dr. Robert Moore, Scientific Manager at Valacta, as the recipient of the Dairy Cattle Improvement Industry Distinction Award for 2018. Dr. Moore has been working in milk recording for 39 years now, beginning his career with the PATLQ (Quebec Dairy Herd Analysis Program), which in 2006 became Valacta, while also working at the Animal Science Department of McGill University. In his capacity as Scientific Manager of the Research and Development team at Valacta, Dr. Moore "has greatly contributed to the development of the technical specifications

for the national milk recording database, which has close and essential ties to CDN," says the Canadian Dairy Network.

The Canadian Dairy Network also emphasizes that "since 1982, Dr. Moore has been fully committed to the advancement of milk recording services, and his contributions to the high quality of data used for national genetic evaluations are remarkable."

"Dr. Moore's studies and his entire career have been devoted to the dairy cattle improvement industry and for this reason, we think that he fully deserves this recognition", underlines Norm McNaughton, Chairman of the CDN Board of Directors.

The award was presented to Dr. Robert Moore on September 19, during the 2018 Dairy Cattle Improvement Industry Forum, at the Château Vaudreuil, in Vaudreuil-Dorion, in Quebec.



Dr. Robert Moore was the recipient of the Dairy Cattle Improvement Industry Distinction Award for 2018, presented by the Canadian Dairy Network.

compare a particular cow only to the other cows in the same herd. This way, any differences in productivity can be attributed to genetic potential.

For management and profitability

The data collected are not just used to evaluate an animal's genetic potential or to identify the cows with the highest yields. The information can also help producers to better manage their farms, control production costs, and finally, determine their profit margins.

In the past, it was customary to talk about the annual yield for each cow (kg milk/year). Nowadays, however, more detailed numbers are required, so we speak in terms of kg milk/cow/day or even kg BF/lactating cow/day. This approach, says Jean Brisson, Valacta's Dairy Production Expert, is explained clearly in the document for the milk recording agency's Optimize with what I've got workshop. The evaluation stems primarily from the fact that the quota is calculated in kg of butterfat per day, but also because the payment per hectolitre of milk is based on its component levels.

A first step, suggests Valacta, is to determine the average quantity of fat that each cow must produce, calculated by dividing the quota in kg by the number of lactating cows. This calculation can be done for each month of the year, since seasonal variations are likely to occur, as shown in Table 1. These reports enable producers to monitor changes for each cow and for the entire herd after each test day.

Productivity varies between herds, of course (Table 2), and producers can see where they stand in relation to other herds, and decide whether they want to focus on increasing fat production or instead maintain their current production and develop the herd along other lines. At this stage, genetic evaluations are probably their best ally.