

# Info Holstein



*Braedale Baler Twine* VG-86-2yr-CAN 23\* 1 Superior Lactation  
25 classified daughters 92% GP or better Canadian Cow of Year 2007



*Braedale Second Cut* VG-86-2yr-CAN 22\* 1 Superior Lactation  
20 daughters 95% GP or better

A Holstein Canada publication providing informative, challenging, and topical news.

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## 2 Famed Cows with Same DNA

**The gain from genomics is multifaceted. One of those benefits will be greater opportunities for parentage testing in the future. This can be observed in a recent case.**

The famous brood cow and dam of *Goldwyn* and *Pagewire*, Braedale Baler Twine, was genomic-tested using the 50K SNP chip. Also included were several of her sons and daughters.

While the full sister to *Baler Twine* and dam of *Final Cut*, Braedale Second Cut was not initially tested using the 50K SNP chip, several of her sons and daughters were genomic-tested.

USDA officials reported to Holstein Canada that they discovered the tested daughters and sons from *Second Cut* had an association to *Baler Twine* of over 50% of the

markers. They reported that this was highly improbable between full sibs and concluded the two cows, *Baler Twine* and *Second Cut*, were most likely to be identical.

To verify, Holstein Canada and Semex Alliance submitted tail hair for *Second Cut* (stored at Semex) for testing using the 50K SNP chip. This test confirmed the two cows had identical genotypes!

*Baler Twine* and *Second Cut* were embryos from the same flush, but never reported as split embryos. The embryos were recovered and transplanted into different recipient cows, later born one day apart.

Holstein Canada investigated and, it was hypothesized, the embryos could have been

**Braedale Baler Twine and  
Braedale Second Cut are  
genetically identical!**

early splits within the first seven days, prior to recovery. However, it has been subsequently discovered they were unreported split embryos, thus having identical genotypes!

It's very interesting to look at the careers of these two famed cows.

*Baler Twine* and *Second Cut* were both classified VG-86 in first lactation with an almost identical scorecard. Both were 85 for Mammary System, 81 for Feet & Legs, and 86 for Rump. *Second Cut*, scored late in first lactation, had a Dairy Strength score of 93, whereas *Baler Twine*, scored 31 days fresh in first lactation, had 88 for Dairy Strength.

On the progeny front, it's not surprising they transmitted so similarly and consistently to their sons and daughters. *Baler Twine* has 25 classified daughters at 92% GP or better, and *Second Cut* has 20 classified daughters at 95% GP or better. *Baler Twine* has 23 Stars and *Second Cut* has 22 Stars for an incredible combined total of 45 Stars.

Bred by Braedale Holsteins, Cumberland, ON, *Second Cut* was sold to Ferme Gillette inc., Embrun, ON at five months of age. *Baler Twine* was sold to Syndicat GEN-I-BEQ, St-Patrice, Qc at five years of age.

## 2008 Annual Report

Go to [www.holstein.ca](http://www.holstein.ca) for your direct link to the Holstein Association of Canada's 2008 Annual Report. After March 27, read it online or print it easily from your home computer.

Alternatively, if you wish to receive the 16-page booklet (English or French) by mail, contact Nicole Faubert by e-mail [nfaubert@holstein.ca](mailto:nfaubert@holstein.ca), phone 519-756-8300, fax 519-756-9982, or mail Box 610, Brantford, ON N3T 5R4.



## Our Future Includes Traceability

By Holstein Canada President, Brian Leach, Cobden, ON

To quote Wayne Gretzky, we will skate to where the puck is going, not to where it is.

The Board must apply this concept to best position Holstein breeders for the future.

The tracking/tracing (one-up and one-down concept) of animals and food products will play a significant role in our ability to compete in global markets.

Traceability brings with it recognition from around the world. This will enhance breed merchandizing efforts. Moreover, consumers will remain confident that farmers supply safe, quality products.

Traceability provides the tools to isolate areas that incur animal health problems mitigating the impact of the national arena.

In building the foundation for livestock traceability, Holstein Canada, its partners, and other agriculture sectors can provide many of the tools to accomplish this feat ...

- NLID and ATQ individual animal ID (RFID/dual tagging)
- Premise ID/farm locations (milk

houses)

- E-commerce (tag replacement, age verification, and electronic transfer of animal ownership/movement)
- Interoperability of databases (ability of databases to receive and send data in prescribed format)
- Animal movement (CCIA and ATQ)
- Harmonization/utilization of premise ID, animal ID, and animal/product movement

An Industry-Government Advisory Committee (IGAC) leads the development and implementation of a National Agriculture and Food Traceability System (NAFTS), beginning with livestock and poultry. IGAC is comprised of 20 industry stakeholders and 15 representatives from federal, provincial, and territorial governments.

Holstein Canada is committed to NAFTS through collaboration and participation. Holstein Canada Past President Pascal Lemire, La Visitation, Qc (*Madystar*), on behalf of industry, co-chairs IGAC. Holstein member Michael Hall, Mountain, ON (*Crystal Brook*) represents Dairy Farmers of Canada.

# All-Inclusive Registry

All animals with Holstein genetics are eligible for registration according to Holstein Canada's Full Spectrum Registration scale. This allows Canadian producers access to genetics of choice from the global marketplace.

With the elimination of blanks/gaps in pedigrees, all animals and genetics can now be fully categorized.

Countries reserve the right to recognize imported genetics in the same manner as if first registered in their own Herdbooks.

*Holstein Canada's database is the primary source of information—the Certificate of Registry or Extended Pedigree. Accessible to anyone in the world with internet connection virtually any time, data is collected, processed, and updated continually.*

This process accommodates the diverseness of international Herdbooks involving grading-up or the entry-level component of

their registration programs. For example, in Europe, it takes three generations to achieve purebred. In the US, animals can be upgraded to a percentage level of 99%. And, in Canada, it requires a minimum of five generations, from a base/foundation animal, for females and six generations for males to reach the purebred category.

*Typical of the breed* means compliance with distinct breed criteria, genetic makeup, physical resemblance, and stability for breed characteristics. *Typical of the breed* also requires that animals be free of disqualifying genetic defects as may be determined by the Board of Directors from time to time.

## Full Spectrum Registration (FSR) Scale

Categorization	Steps/Levels	Lineage	
<b>Crossbred</b>	XX / F1	HO x ? (two breeds scenario) (XX continues until animal becomes typical of breed)	
	XX / F2		
	(2 <sup>nd</sup> generation)		
	XX / F3		
<b>Recorded</b> (Entry level)	BB	Base/foundation Holstein typical of breed (dam or sire or birth date may be unknown)	
<b>Percentage</b> (Grading-up)	50	Average of assigned purity of sire and dam typical of breed	
	62.5		
	75		
	87.5		
	93.75		(males only—one additional generation)
<b>Purebred</b>			
	Females	100	Minimum 93.75 typical of breed
	Males	100	Minimum 96.87 typical of breed
	Purebred from	100	All purebreds equate to 100 for categorization purposes.
	Origin (no gaps)		

## Dear Editor:

I read your *Labo Solidago's Naturally Outstanding Success* article in the last *Info Holstein*. Because of my professional background, I must identify non-scientifically-proven points:

1) Micro-organisms in the rumen do not decompose fibers into protein. The dietary components (fibers and proteins) are decomposed by free fatty acid microbes (specifically acetic acid, propionic acid, and butyric acid), and in peptides, amino and ammonia acids.

However, it is true that multiplying bacteria will be redirected by the cow and will constitute an important source of quality protein (with a good proportion of amino acids).

2) The cow's rumen is never empty within 24 hours.

3) The rumen's pH drops with the intake of other foods, regardless if the animal is fed hay beforehand or not. However, this drop will be less pronounced, and that's what matters in the prevention of rumen subclinical acidosis.

4) To my knowledge, no scientific documentation supports a) the licking of the scapula as a sign of rumen acidosis, b) the presence of a gray colour around black markings indicating excess protein in the ration, and c) mastitis in the right-hind quarter in the event of hepatic lipodosis.

Roger Martineau, mv MSc PhD  
Agriculture and Agri-Food Canada  
Sherbrooke, Qc

## Dear Jane:

You were right. Every day, farmers from all over Canada call us.

I thank Dr. Martineau for his precision on #s 1 and 3. I find results interest most farmers, even if not taught at university. As he writes, this is an important source of protein, and acidosis is prevented by dry hay.

For #2, cows are more hungry after a fast of 7-8 hours; it doesn't matter if the rumen is 1/2 or 3/4 empty.

Scapula licking was observed by French veterinarian Dr. Giboudeau, author of the Obsalim method. We have verified licking in 95% of animals in hundreds of herds.

Clients confirm shaded markings disappear within weeks with a lower-protein diet. With hair and colour protein-based, we theorize excess protein would go there. This is just one more sign of a charged liver, with a yellow-coloured udder and eyes, lower appetite and production, and right-hand quarter mastitis.

Clément Doyer, Labo Solidago, Sainte-Louise, Qc

# Polled Holsteins

**P**olled cattle are attracting interest, given animal welfare issues and the convenience of not having to dehorn them. Horned animals can also cause harm to farmers and other livestock. Additionally, dehorning could result in a calf experiencing trauma, losing growth and efficiency—a cost to farmers.

Polled in Holstein's case refers to the absence of horns or scurs—animals born naturally hornless.

The polled characteristic in cattle is inherited as a simple, dominant gene.

## Polled is *dominant, desirable gene*

Therefore, horns result from two copies of the recessive gene at that location on the chromosome.

When a polled, heterozygous animal is mated with a horned animal, approximately one-half of the offspring will be polled and one-half will develop horns.

Heterozygous Polled Parent (PH)			
Homozygous Horned Parent (HH)		P	H
	H	PH	HH
	H	PH	HH

Offspring are 50% polled and 50% horned

When a polled, homozygous animal is mated with a horned animal, all offspring will be polled.

Homozygous Polled Parent (PP)			
Heterozygous Horned Parent (HP)		P	P
	H	PH	PH
	P	PP	PP

Offspring are 100% polled

The first screening for horns occurs at birth when the head is felt for horn buttons. Because polled status cannot always be determined at birth, the

second screening is done at weaning or dehorning—about one to two months of age.

The World Holstein-Friesian Federation has adopted the coding protocol **polled (PO)**, which identifies animals born without horns. As of February 2009, Holstein Canada is exchanging **PO** (polled) in the Herdbook and Who's Who file layouts. Moreover, Holstein Canada—as part of the verification process—will verify the source of the polled gene from a polled dam or polled sire or both.

This **PO** code will print on Certificates of Registry and pedigrees, along with other official genetic codes. Owners can apply to add the code to previously-registered animals born hornless.

Additionally, the WHFF is proposing to expand the polled coding system to indicate the number of associated alleles (heterozygous or homozygous). These expression codes could include POS—tested *true polled* (homozygous PP); POC—tested *carrier of polled* (heterozygous Pp); and POF—tested *free of polled*.

Further refinement is forthcoming as no test is currently recognized to make these determinations.



Three-Year-Old West Port Arron Doon Mit P Red (VG-85-2yr-CAN) is a polled, red and white September Storm with 10,586 kg milk, 4.0% fat, and 3.5% protein (305 days) as a Yearling. Mit, owned by Venture Genetics, Millbrook, ON, has a polled son and brother at Semex.

**Homozygous** = an individual having two *identical* alleles of a particular gene, which breeds true for the corresponding characteristic.

**Heterozygous** = an individual having two *different* alleles of a particular gene, giving rise to varying offspring.

### Origin of Polled Cattle

Geneticists believe ancestors of modern cattle did not have horns and that mutations must have occurred giving rise to horns. Horned cattle proliferated. Furthermore, it is now thought the occurrence of polled animals in modern times results from another mutation back to the hornless condition.

Prior to domestication, horns served as a defence mechanism enabling the species to survive.

Some countries still tether cattle by their horns.

# Disclosure Codes

## Dairymen request complete listing for reference

Genetic recessives, colour, and secondary birth codes are in Holstein Canada's database and included on Association documents.

The move to three-character coding was a 2004 harmonization initiative by the World Holstein-Friesian Federation.

These codes are useful for making breeding decisions on-farm. Publication of genetic recessive codes also allows the breed an opportunity to minimize the impact of associated problems and to eliminate them from the breed.

The modified, expanded gene and corresponding expression codes ensure exchange among countries that are simple, expandable, and easy to use.

In conjunction with the 2008 WHFF, the Council further advocated consistency of coding by applying three-digit coding to all Coat/Hair Colour Carrier Codes.

Holstein Canada is a world leader by implementing all these codes, which aids producers in the exchange of genetics domestically and internationally.

Disclosure codes can also be found at [www.holstein.ca](http://www.holstein.ca) Products and Services Disclosure Codes.

### Genetic Recessive and Transmitting Codes

Gene Name	Description	Gene and Expression Code
<b>BLAD</b>	Bovine Leucocyte Adhesion Deficiency (deficiency of a normally occurring protein needed for white blood cells or leukocytes, which are body's infection fighters)	<b>BLC = tested carrier of BLAD</b> <b>BLF = tested non-carrier of BLAD</b>
<b>MULEFOOT</b>	Mulefoot (toes of foot are joined, giving animal a single hoof, instead of cloven ones)	<b>MFC = tested carrier of MULEFOOT</b> <b>MFF = tested non-carrier of MULEFOOT</b>
<b>DUMPS</b>	Deficiency of Uridine Monophosphate Synthase (one of many enzymes contributing to normal metabolic processes)	<b>DPC = tested carrier of DUMPS</b> <b>DPF = tested non-carrier of DUMPS</b>
<b>CVM</b>	Complex Vertebral Malformation (causes still-born calves, abortions, and early embryonic losses)	<b>CVC = tested carrier of CVM</b> <b>CVF = tested non-carrier of CVM</b>
<b>FACTOR XI</b>	Factor XI (blood clotting disorder)	<b>XIC = tested carrier of FACTOR XI</b> <b>XIF = tested non-carrier of FACTOR XI</b>
<b>CIT</b>	Citrullinemia (accumulation of ammonia and other toxics in blood in baby calves)	<b>CNC = tested carrier of CIT</b> <b>CNF = tested non-carrier of CIT</b>

### Coat/Hair Colour Codes

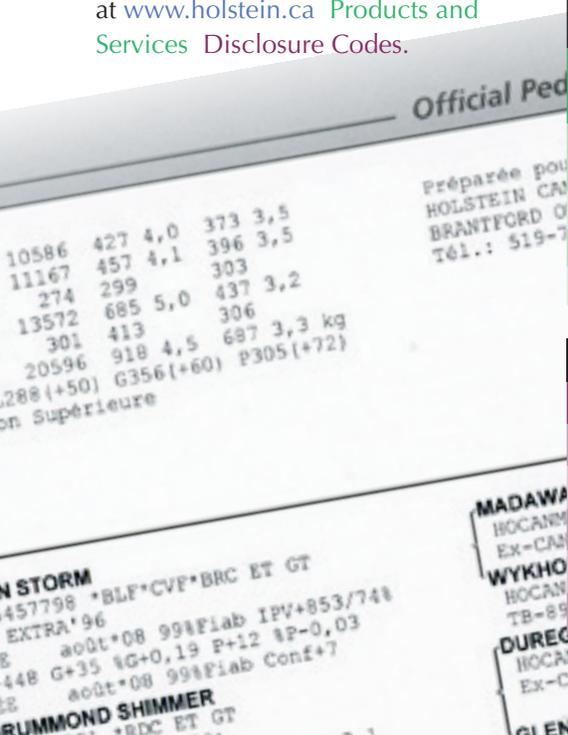
Code	Description
<b>B&amp;W</b>	Black and White
<b>R&amp;W</b>	Red and White
<b>B/R</b>	Black/Red (primarily B&W although exhibits reddish peculiar hair patterns—muzzle, ears, dorsal stripe, etc.)
<b>AW</b>	All White
<b>AB</b>	All Black
<b>AR</b>	All Red
<b>IC</b>	Irregular or other colour (non-typical Holsteins)

### Coat/Hair Colour Carrier Codes

Coat Colour Carrier Gene	Description	Gene and Expression Codes
Red	Red gene	<b>RDC = carrier of red gene</b> <b>RDF = non-carrier of red gene</b>
Black/Red	Black/red gene	<b>BRC = carrier of black/red gene</b>
Variant Red	Variant red gene	<b>VRC = carrier of variant red gene</b>
Black	Black gene	<b>BKC = carrier of black gene</b>

### Birth Codes (Secondary)

Code	Description
<b>MB</b>	Multiple Birth
<b>ET</b>	Embryo Transfer (regular)
<b>ETM</b>	Embryo Transfer Manipulation (split or cloned)
<b>ETA</b>	Embryo Transfer Adult Clone
<b>PO</b>	Polled (born hornless)



# Building Beauçoise for Cont



Beauçoise Goldwyn Clarika ET



## LPI focus in breeding program, but numerous show animals also developed for Turmels

The *Beauçoise* herd located in Sainte-Marie de Beauce is one of the largest in Québec.

Six generations have lived on the picturesque farm, but it was brothers Louis and Jean-Denis who forged their way into registered cattle. The entire herd was purebred by the early '70s. Louis and second brother Clément became partners in 1985.

Under the ownership of Les Fermes Turmel inc., a Master Breeder award was won in 1996. About this time, animal numbers within the herd also began to increase dramatically.

Louis and Clément are now immersing their sons into the growing operation. Louis' sons are Nicolas and Benoît. Clément's son is Jean-Philippe.

With two families and four full-time employees to support, the operation entered an expansion phase in 2001. A naturally-ventilated free-stall barn (220 x 120 feet and 40 feet at the peak) was built for 205 cows. The immaculate double-12 herringbone parlour is much used with fresh cows, up to 150 days, milked three times daily.

This move was highly welcomed as family members had previously

been shuffling among three different locations. Even now, 40 are milked in an on-site, older tie-stall barn.

The free-stall facility was erected partly for animal comfort and, now that they've tried it, the Turmels would never go back to a tie-stall barn. While the advantages to cows are numerous, it also takes less people to manage.

Furthermore, in order to bring all cattle together in one location, they are now erecting a second free-stall/cold barn for 250 heifers. Calves will continue to be housed in hutches.

*Beauçoise* was an active merchandizer of bulls in the '90s. Embryos were sold to over 20 countries. However, it's the elite show cow here and there that has propelled the prefix to prominence.

One such animal was *Beauçoise Mason Fany* (VG-87-4yr-CAN). She was 2000 All-Canadian Senior Two-Year-Old and Reserve All-American Senior Two-Year-Old after achieving Reserve Intermediate Champion at the Royal Agricultural Winter Fair. *Fany* also has one Superior Lactation.

*Beauçoise Goldwyn Clarika E T* (VG-88-2yr-CAN) was just third in her Junior Two-Year-Old class at the Royal and named 2008 Honourable Mention All-Canadian. Placing 40<sup>th</sup> LPI cow (Jan. 2009), and projected to make

10,000+ kg milk, she is owned by Cherry Crest Holsteins, Martintown, ON and Ferme Blondin, Saint-Placide, Qc.

*Beauçoise Black King* (GP-80-4yr-CAN Extra'96) and the current *Beauçoise Spike* (EX-92-CAN ST'07) have also added notoriety to their lineup. They currently move about four sires a year to Semex.

Always willing to sell animals, the Turmels have profited by having the highest-priced animal at many auctions. This includes 2001's Honourable Mention All-Québec, *Beauçoise Lee Coucou* (VG-88-2yr-CAN 1\*). She went to Ferme Madisson, Oka, Qc after topping Québec's International Sale.

This fine herd traces to cows bought 30 years ago with each generation classifying higher, even though LPI and production have always been at the forefront. Their herd averages 10,000 kg milk, 3.8% fat, and 3.3% protein. *Chief Mark*, *Aerostar*, and *Rudolph* left some really good foundation animals in the herd.

While they continue to individually mate each cow, they use many sires, including *Shottle* and *Goldwyn*.

Nicolas, a Laval University graduate, is now responsible for the breeding decisions. And while he still selects sires based on LPI, he places more emphasis on conformation (+10 and

# inuing Success



greater). Nicolas and his cousins desire a profitable and efficient herd through top-producing, long-living, healthy cows possessing good type to take them into the future.

Conducting some ET, they take eggs from their better cows and insert them into their lower-quality animals.

In the January 2009 LPI Cow Report, the extended family had seven homebred cows in the top 50, including the second and third placers— Beauçoise Inquirer Citation (VG-87-2yr-CAN 2\*) and Beauçoise Rolex Palmira (VG-86-2yr-CAN).

The Turmels are vigilant about biosecurity and maintain a closed herd free of leucosis and diseases. In fact, if one animal tests positive, regardless of her status or classification score, she is shipped immediately.

Saying that, however, they are open to introducing a new bloodline (exempt of any diseases) if it would enhance the herd for future success and profitability.

Nicolas and his uncle, Clément, share eartagging responsibilities. The Valacta advisor electronically submits registrations to Holstein Canada.

The Turmels are very progressive in working toward a practical, workable succession plan. And while Louis and Clément still own the farm and call themselves *advisors*, they encourage their three sons to make decisions and learn from their successes and failures. The fathers had always *hoped* for the boys' return to the farm, but never pressured them; each had to make up his own mind.

In return, this next generation feels very fortunate for the opportunity to

join a thriving, prominent venture.

Besides Nicolas making the breeding decisions, Benoît, who previously worked for Shur-Gain, is responsible for nutrition and feeding the herd. They grow their own corn and hay, and purchase the rest.

Jean-Philippe manages the field work, which totals 734 cultivated acres. Five hundred more exist in woods.

Proud Holstein Canada members for 36 years, their family farm is being positioned for future efficiency and success. This they plan to accomplish through high-producing, long-living, healthy cows. Benoît, in particular,

would like more Excellent cows. They currently own 301 kg quota.

Louis, Clément, Nicolas, Benoît, and Jean-Philippe Turmel all believe strongly in purebred Holsteins—on this, they say they will never waiver.

As a team, they have set goals to increase their current herd average to 12,000+ kg milk with 4% butterfat test, within five years.

And, if a second Master Breeder designation is on the horizon, these five Holstein enthusiasts will receive it as graciously as they do when breeders visit their environmentally-friendly farm.



(l-r) Clément, Jean-Philippe, Nicolas, Benoît, and Louis Turmel

## Keen Students Lay Claim to Future

**Holstein Canada was delighted with the number of quality applications received for its six education awards worth \$750 each.**

**Overall, the students assumed active roles in youth activities at the local, provincial, and national levels. Building on strong agricultural roots, 43 applicants from across Canada are go-getters in their academic and social lives.**

**They all exhibit a passion for the Holstein breed. And while they're optimistic about the dairy industry's future, they realize that a good education and strong work ethics, on and off the farm, are keys to success.**

**Craig DeGroot  
Chilliwack, BC  
Tonesa Holsteins Ltd.**

Craig started as a young, bright-eyed farm boy willing to tackle new and greater challenges on his home and neighbouring farms as he matured.

Also included in his hands-on training was 4-H involvement, an AI course, and working on a dairy operation in New Zealand.

As his knowledge increased, so did Craig's interest in individual cow and



herd health. He is now in his fourth year of the Doctor of Veterinarian Medicine program at the University of Saskatoon, with an emphasis on food animal medicine.

He looks forward to an exciting career with large animals where best management practices will be promoted to obtain maximum results, regardless of operation.

**Craig Templeton  
Kemptville, ON  
Templeview Holsteins**

Craig's active involvement from an early age has entitled him to participate in making decisions for his family's business.

As a strong 4-H member and officer for many years, Craig excelled



in showmanship and judging. In fact, he celebrated with Ontario's judging team, which finished seventh overall at 2008 World Dairy Expo.

Craig is working to complete a four-year degree program at the University of Guelph, majoring in Animal Sciences. Education and gaining experience working for others are goals he intends to meet before heading home to excel as a smart, efficient Holstein breeder.

**Stephanie Warner  
Hastings, ON  
Ronbeth Holsteins**

Completing 38 4-H clubs has enriched Stephanie's life and contributed to making her the well-rounded leader she is today. Receiving too many awards to name for 4-H and school achievements,



Stephanie also participates in community programs.

Thoroughly immersed in her family farm operation since childhood, she now registers all calves online and maintains herd records. This is on top of her favourable school marks.

Stephanie will graduate in 2009 from Fleming College with a diploma as an Educational Assistant. Kind and caring, she wants to provide assistance to disabled school children. However, this self-starter's ultimate dream is to farm full time ... one day.

**Marie-Philip Brisson**  
**Sainte-Barbe, Qc**  
**Jean-Guy Brisson and Betty Mercier**  
*Brismer*

Perfectly bilingual, Marie-Philip has demonstrated interpersonal and leadership skills since a child working on the family farm. Further



education and keen observation skills have solidified her as a valuable team player, whether it's at home, in 4-H, school, or sports.

Winning Champion Showperson at both the Scotiabank and President's Cup were goals Marie-Philip set out to achieve after winning numerous

prizes at the local level.

Currently, this enthusiastic lady is completing her animal technology studies at l'Institut de technologie agroalimentaire, St-Hyacinthe. This fall, she will study agronomy at university.

Marie-Philip is concerned about how biosecurity and environmental issues will affect farm sustainability and growth.

**Sarah Poulin**  
**Saint-Georges-de-Beauce, Qc**  
**Ferme J. P. Poulin & Fils** *Jeanlu*



Sarah was recognized (from 800 youths under 15) as Personality of the Year by l'Association des jeunes ruraux du Québec, in 2005.

Her winning also continues in the show ring where she has passionately trained, prepared, and exhibited calves since a very early age. At the 2005 Québec 4-H Classic, Sarah claimed first in her age category and was Reserve Grand Champion Showperson.

Sarah attends l'Institut de technologie agroalimentaire at La Pocatière campus with a goal of taking over the family farm one day. Here, she has been a national bursary

winner in a contest promoting women in a predominantly masculine field of study.

**Nadine Brooks**  
**Sackville, NB**  
**Forksvie Farm Limited**



Benefiting from a diverse farm upbringing, Nadine has raised, owned, and successively competed—as high as the Royal—with Holsteins, Suffolk sheep, and Quarter horses. A 12-year, diversified 4-H member and officer, she has also won awards for public speaking.

Completing high-level dairy tasks on-farm, she works summers for the New Brunswick Soil and Crop Improvement Association. Nadine created an environmental farm plan for *Forksvie*.

This top sportsperson is currently working toward a Bachelor of Science, where she majors in animal science, with minors in genetics and molecular biology. Her goal is to become a Doctor of Veterinarian Medicine, directed at animal husbandry and disease prevention.



# GEBVs and GPAs are Coming

## Producers are keen to genomic-test females

The 50K SNP genomic-testing service was introduced by Holstein Canada in November. In the first two months, 240 hair samples were submitted. A further 520 Canadian females were genomic-tested as part of pilot testing that occurred last summer.

As a result, a large number of elite genetic females will be genomic-tested in advance of the first public release of Canadian genomic breeding values in April 2009. For instance, over 60% of the top LPI cows were genomic-tested by the end of 2008. Genomic testing will likely be an essential to be considered as a potential bull dam or for embryo possibilities.

## What will genomic breeding values look like?

Non-genomic-tested heifers will continue to receive **Parent Averages** and non-genomic-tested cows will continue to receive **Estimate Breeding Values**. Moreover, genomic-tested females will get their genomic information combined with their genetic indexes to result in combined genomic-genetic values for all traits.

**GPAs=Genomic Parent Averages**  
**GEBVs=Genomic Estimate Breeding Values**

These combined values will be labelled as GPAs (**G**enomic **P**arent **A**verages) for heifers and GEBVs (**G**enomic **E**stimate **B**reeding **V**alues)

for cows. The genomic information will be blended for all existing production, conformation, functional traits, and LPI.

The combined genomic values will have the same look and feel as regular PAs and EBVs. The reliability will be higher, and the net impact from genomics will either rise or lower the indexes. The GPA or GEBV will become the official indexes for these animals.

For those interested, the direct genomic values without any genetic or parentage component (labeled DGV) can also be viewed on CDN's website.

Starting April, there will be two top cow LPI lists and two top heifer PA LPI lists. One of them will include all animals, whether genomic-tested or not; however those tested will be clearly labelled. The two new LPI lists will include only genomic-tested females.

## Which females should be considered for genomic testing?

It is difficult to answer this question for everyone, since it depends on specific goals and market potential.

Producers should consider testing only high-genetic animals. Cows express their genes every day, so there shouldn't be too many miraculous discoveries.

A producer might consider testing some medium-to-high genetic animals

**Focus most of your genomic testing on heifer calves!**

that could be underappreciated genetically, due to non-genetic factors like sickness that hindered their performance.

A general rule for all herds should be to focus most genomic testing on heifer calves. Genomics will add the most accuracy to these young animals of the future. The reliability gain is



like giving these heifers four to five lactations or 9-11 progeny.

Genomics will greatly influence animal selection toward the youngest animals in the population. Producers should take advantage of this by genomic-testing their highest PA heifers.

## What is the average effect from genomics on elite cows and heifers?

If all animals in the population were genomic-tested, the average change would likely be close to zero. But in reality, it will be the more elite females that will be genomic-tested.

Genetic evaluations assume all animals in a herd are treated equally. This assumption is true for the majority, but may not be the case in some instances.

If preferential treatment of an elite animal further enhances her performance compared to herdmates, then it could inflate a cow's index. Furthermore, if that preferential treatment was done extensively within a family, the entire family could be over-inflated under the current genetic evaluation system.

Genomics is expected to reduce, but not remove the influence of preferential treatment. For this reason, among others, it is expected that many elite females will have combined genomic values that are a little lower than their former genetic indexes. This will not be the case for all elite cows and heifers, so it introduces new opportunities within the breed.

# Wholesome Food from Healthy Animals

By Secretary-Manager Keith Flaman

A survey conducted last year reported that consumers ranked traceability as the second most important concern,

**Traceability is the ability to track, from birth, animal and food animal products to the plate.**

behind freshness, when ranking what they consider important in food purchases.

While the reputation of farmers, as conscientious suppliers of wholesome and safe food is still intact, efforts to reinforce that status must be ongoing.

Consumers, when interviewed, recognize there are potential risks of contamination in the food chain. However, due diligence and traceability are instrumental in

mitigating a fallout.

Preventing contaminants from entering the food chain is a more practical approach to ensuring a quality product to the end user rather than relying on processes to remove any adulterations.

On-farm best management practices are the first steps to ensuring your herd is on its way to top-notch health status. This includes the recording of all events occurring in an animal's life, as well as a bio-security strategy that is practical and effective. A healthy herd that maximizes production and requires fewer inputs turns more profit.

Moving forward, farms with superior health status will enjoy increased marketing opportunities for their animals and products.

Over the next year, *Info Holstein* will incorporate several articles, with input from very knowledgeable sources, which will offer practical ways of improving the health status of your herd to capitalize on the demands of the marketplace.

## Top Sires Making Improvement on Dam

Based on 1st Lactation Classifications from November/December 2008

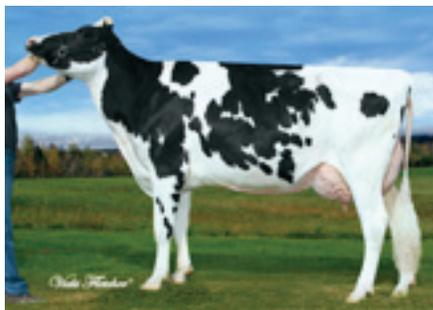
Top 10 Sires with 100+ Daughters Classified in Two-Month Period				Top 10 Sires with 30-100 Daughters Classified in Two-Month Period			
Sire	Daughters Classified <sup>▲</sup>	% Higher than Dam	Daus/Dam Avg. Scores	Sire	Daughters Classified <sup>▲</sup>	% Higher than Dam	Daus/Dam Avg. Scores
Instinct	119	68.9	80.0/79.3	Damion	46	73.9	81.7/79.8
Talent	140	68.6	81.0/79.7	Givenchy	92	68.5	79.4/78.9
Lheros	234	67.1	80.5/80.1	Drake	59	62.7	81.0/80.7
Milkstar	190	62.6	79.1/78.6	Derek	50	60.0	78.9/78.0
Goldwyn	687	61.6	81.6/81.4	Jasper	85	60.0	81.5/81.1
Mailing	142	61.3	80.3/79.7	Champion	82	59.8	80.0/80.5
Outside	116	61.2	80.1/79.4	DJ	42	59.5	78.9/78.5
Spirte	190	61.1	79.8/80.0	Merchant	44	59.1	80.2/80.2
Samuelo	390	60.3	80.4/79.9	Redman	36	58.3	80.3/79.7
FBI	335	58.8	80.4/80.0	Scotty	31	58.1	79.0/78.8

Note: <sup>▲</sup> Daughters are included in the statistics only if both the daughter and her dam calved for the first time before 30 months and were both first classified within the first six months of lactation.

# Classification Schedule

mid-round

Month	Classification	Regions
February	ON	Elgin
	ON	Peterborough, Northumberland, Lennox & Addington, Frontenac, Hastings, Prince Edward, Victoria, Durham
	Qc	Matapédia, Bonaventure, Matane
February	Qc	Vaudreuil, Soulanges, Huntingdon, Châteauguay, Beauharnois, Laprairie, Napierville, St-Jean, Iberville
	PE, NS, NB, NL	
	ON	Ontario, Waterloo
February	Qc	Arthabaska, Wolfe
	Qc	Shefford, Richmond, Missisquoi
	ON	Oxford
February	Qc	Mégantic
	Qc	Brome, Compton, Sherbrooke, Stanstead
	SK	
March	ON	Perth
	Qc	Nicolet, Yamaska, Drummond
	Qc	Frontenac, Beauce, Lévis, Montmorency
March	ON	Wellington, Northern Ontario, Thunder Bay, Dundas, Stormont
	Qc	Bagot
	Qc	Dorchester
March	BC	Lower & Central Fraser Valley, Richmond Delta
	Qc	St-Hyacinthe, Richelieu, Verchères, Rouville, Abitibi, Témiscamingue
	ON	Prescott, Glengarry, Russell, Carleton
April	ON	Leeds, Grenville, Lanark, Renfrew, Grey
	ON	Niagara, Wentworth, Brant, Haldimand Norfolk
	Qc	Pontiac, Labelle, Papineau, Gatineau, Argenteuil, Deux-Montagnes, Terrebonne
April	BC	Upper Fraser Valley, Okanagan, Vancouver Island
	ON	Bruce, Huron
	Qc	L'Assomption, Montcalm, Joliette, Berthier, St-Maurice
April	Qc	Bellechasse
	Qc	Maskinongé
	Qc	Montmagny, L'Islet
April	AB	



**Innislake Morty Lucky Charm (VG-85-2yr-CAN)**  
at 326 days in milk

### Innislake Morty Lucky Charm (VG-85-2yr-CAN)

• **2-Year-Old for Fat**

- 1 Superior Lactation
- Breeder: Innislake Dairy Farm Ltd., Olds, AB
- Owner: Leo Baumann and Robert Mallette, Lyn, ON
- Sire: Stouder Morty-ET (EX-CAN)

	Production (kg) 02-04 305	BCA (Deviation)
Milk	16,398	409 (+129)
Fat	976 6.0%	655 (+382)
Protein	511 3.1%	399 (+125)
Total		1,463 (+636)

### Beaver Ray Blitz Mirka (VG-87-5yr-CAN)

• **4-Year-Old for Milk**

- 2 Superior Lactations
- Breeder and Owner: Remi Leroux, Ste. Anne De Prescott, ON
- Sire: Fustead Emory Blitz-ET (EX-94-11yr-USA Extra'04 GM)

	Production (kg) 04-09 305	BCA (Deviation)
Milk	25,438	519 (+271)
Fat	979 3.8%	532 (+268)
Protein	777 3.1%	495 (+231)
Total		1,546 (+770)

highest level, only the top individual is recognized.

To view the current list of all-time highest production Canadian Champion cows, visit [www.holstein.ca/english/Awards/basic/asp](http://www.holstein.ca/english/Awards/basic/asp).

### Arla Outside Florissante (GP-82-2yr-CAN)

• **7-Year-Old for Milk**

- 2 Super 3s
- 4 Superior Lactations
- Breeder and Owner: Conrad Riendeau, Saint-Césaire, Qc
- Sire: Comestar Outside (EX-95-CAN Extra'98)

	Production (kg) 07-09 305	BCA (Deviation)
Milk	23,772	476 (+165)
Fat	1,082 4.6%	588 (+279)
Protein	715 3.0%	453 (+139)
Total		1,517 (+583)

## 2008 Master Breeders

#### Abelaine Farms

Abe and Elaine Buttmer  
New Glasgow, PE

#### Arcroix

Ferme Arthur Lacroix Itée  
Arthur, Colette, Martin  
Lacroix, and Mélanie Boulet  
Saint-Michel, Qc

#### Belmoral Farms Ltd.

David and Annamae Kieffer  
Teewater, ON

#### Breeze Hill Holsteins

Glenn and Larry McDonald  
Winchester, ON

#### Emilane Holsteins

Dan and Helen McMorrow  
Lindsay, ON

#### Ferme Giard enr.

Hermel, Bruno, and Simon  
Giard  
Saint-Simon-de-Bagot, Qc

#### Gisthal

Régis Bégin and Nathalie  
Métivier  
Sainte-Germaine, Qc

#### Glenridge Holsteins

Bruce and Lorne Loveridge  
Grenfell, SK

#### Havenvalley Holsteins

James and Erla Brubacher  
Wallenstein, ON

#### Honeypod Holsteins

Max Spence  
Elmvale, ON

#### Killcroft Holsteins

Stephen and Laurie Killing  
Tavistock, ON

#### Ferme Lolisée

Michel Guay and Linda  
Latulipe  
Brownsburg-Chatham, Qc

#### Mapel Wood Farms

Len Vis  
Jerseyville, ON

#### Marbro Farms

Ross and Gord Marshall  
Woodstock, ON

#### Pavico

Ferme Bessette and  
Frères Waterville inc.  
René Bessette and Carole  
Chassé  
Waterville, Qc

#### Poelman

Sunny Vale Farm Ltd.  
Gerald and Jannes Poelman  
Cowichan Bay, BC

#### Ferme Rubis enr.

Charles Ménard and  
Manon Prud'homme  
Thurso, Qc

#### Seabreeze

Churchill Bros.  
Farm Limited  
Rick, Blair, and Stephen  
Churchill  
Yarmouth, NS

#### Twinholm Farms Ltd.

Fran and Randy Fish and  
Family  
Cannington, ON

#### Wedgwood Holsteins

Ridley Wikkerink and  
Karen Aldrich-Wikkerink  
Cobble Hill, BC

#### Wendon Holsteins

Don, Wendy, and Logan  
Chalack  
Innisfail, AB

**Full writeups  
to follow in  
April/May Info  
Holstein**



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