

Pro\$ & LPI: Enhancements and Updates



Canadian Dairy Network

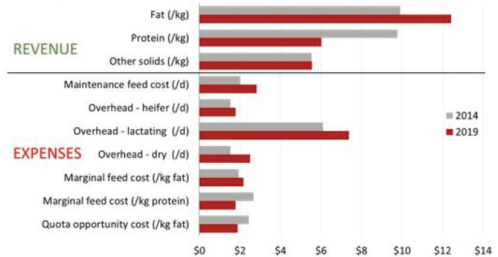
Pro\$ was introduced in August 2015 as a selection tool to maximize genetic response for daughter lifetime profitability. Since that time, producers, A.I. companies, breed associations and other industry organizations have been quick to embrace this index. Over the course of the last three years, significant changes in milk pricing and expenses have occurred. In addition, the accumulation of more data, as well as the opportunity to add new traits and expenses unavailable in 2015, led CDN to pursue updating the Pro\$ formula. LPI updates were also last made in 2015, so updating both indexes simultaneously was logical. In this article, learn about the updates to each national index, which are effective with the April 2019 genetic evaluation release.

What has Changed since Pro\$ was Launched?

The backbone of Pro\$ is cow profitability data from Valacta and CanWest DHI - data that comes directly from Canadian dairy farms. Annually, economists update the economic parameters used to derive profit values for each cow in order to assure their relevancy. Due to changing market conditions, component pricing has changed substantially in favor of fat production since Pro\$ was introduced in 2015. Overhead costs and feed costs have also seen significant change. All economic values used in cow profitability calculations from 2014 and 2019 are seen in Figure 1 and can be useful when assessing where the major updates to Pro\$ originate.

Two other important improvements to cow profit values include the modification of expenses to reflect cow differences in terms

Figure 1: Changes in Economic Values Used in Holstein Cow Profitability Calculations



of reproduction and maintenance costs. On the reproduction side, the overall profit calculation used by CDN now accounts for the total number of inseminations performed for individual cows up to six years of life or disposal. In terms of maintenance costs, previously, these varied across breeds but not between animals of different sizes within a given breed. Using Holstein Canada body weight measurements and certain linear and measured conformation traits, CDN developed an estimation for relative body size and modified maintenance costs accordingly. Combined, these changes mean a sire whose daughters require more inseminations to get pregnant and higher maintenance costs than average, for example, will have lower average daughter profit and Pro\$ as a result.

Some final changes to Pro\$ since its initial release include the addition of nearly four more years of cow profit data, an updated Pro\$ formula specific to the Jersey breed, as well as the availability of Pro\$ evaluations for the first time in the Ayrshire breed.

A Refresher on How Pro\$ is Calculated

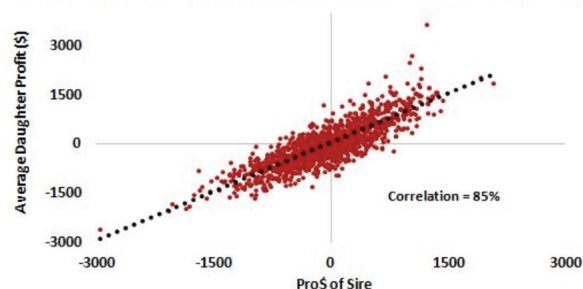
In brief, the steps for calculating Pro\$ include:

1. Calculating the accumulated profit to 6 years of age for each cow (born from 2006-2012 to allow the opportunity to reach 6 years of age)
2. Averaging the profit to 6 years across all daughters by sire
3. Identifying groups of sires with a sufficient number of daughters with profit data for analysis
4. Determining the best combination of traits to predict average daughter profit from sire proofs

Relating Pro\$ to Daughter Profit

Pro\$ is expressed in dollars as a deviation from breed average. For example a bull with a Pro\$ of \$2000 can be expected to sire daughters that have an average accumulated profit to six years that is \$500 higher than daughters of a bull with \$1500 Pro\$. In other words, selecting sires with a higher Pro\$ value will translate directly into increased average lifetime profit of the resulting daughters. This concept is illustrated in Figure 2.

Figure 2: Average Daughter Profit to 6 Years versus Sire Pro\$ - Holstein



Holstein LPI Updates

CDN works closely with breed associations when updating their respective LPI formula. With Holstein Canada, it was decided that the Holstein LPI will maintain the overall component weights of 40% Production, 40% Durability and 20% Health & Fertility. However, weights have shifted on traits within components and two new traits were added to the formula. More specifically:

- A shift of the Fat to Protein ratio from 40F:60P to 60F:40P to better reflect current component pricing and market demand
- Adding Rump to the Durability component with 5%

weight, removing 3% from Mammary System and 2% from Feet and Legs

- Adding Hoof Health to the Durability component, alongside Feet & Legs, with weights of 7% and 21%, respectively

Table 1: Holstein LPI Formula Weights as of April 2019

Production (40%)		Durability (40%)		Health & Fertility (20%)	
Fat Yield	60%	Herd Life	20%	Daughter Fertility	67%
Protein Yield	40%	Mammary	37%	Mastitis Resistance	33%
		Feet & Legs	21%		
		Hoof Health	7%		
		Dairy Strength	10%		
		Rump	5%		

Comparing the Updated LPI and Pro\$

The correlation between the updated LPI and Pro\$ is 97%, meaning animals will rank somewhat differently for one index versus the other, depending on their combination of traits. So how do you determine which index best aligns with your goals? First off, it is important to realize that lifetime profit can be defined differently from farm to farm, depending on the sources of revenue and associated expenses. While Pro\$ is targeted to meet the needs of producers who generate essentially all their revenue from milk sales, LPI retains the interests of those who desire to market genetics domestically and abroad.

Compared to LPI, using Pro\$ as your primary index will maximize production yields and maintain functional traits and conformation at a level necessary to sustain high yields (Figure 3). On the other hand, using LPI as your primary index will lead to a herd with exceptional conformation, superior Daughter Fertility, Hoof Health, Mastitis Resistance and good Fat and Protein yields.

Figure 3: Expected Response by Trait for LPI and Pro\$





**EastGen Welcomes
new Board of Director
member John den Haan
Zone 7**
*(Representing Simcoe County
and Northern Ontario)*

John and his wife Bonnie along with their family operate as Haanview Farms Inc. and also have an on-farm dairy operated under Sheldon Creek Dairy Inc. John and Bonnie are principle shareholders in both businesses with their two daughters Marianne and Emily being minority shareholders. As they look to transfer both operations to the next generation, Marianne is taking over management of the dairy and Emily is taking over management of the farm. This past year Marianne's husband Mike has become involved in the dairy as well.

The couple have four children: Emily; Scott (Wife Steacy and children Grace and Kayden); Andrew (Wife Amanda and children Ava, Archer and Auston); Marianne (Husband Mike and children Wyatt and Walter). They are all involved in the field of agriculture.

The family built a new robot facility in 2018. The six-row perimeter feeding barn includes two Lely robots. The barn is built for 120 milking cows, 38 dry cows and bred heifers, and a maternity area for 12 cows. The robots are designed to collect the milk from the A2 cows and send it through a separate system to a bulk tank just for A2 milk. They are presently milking 65 cows of which 35% are tested as A2.

When asked, John gives us this summary of his breeding philosophy and goals: "We have always bred cows that have well attached udders, good feet and legs, and are deep ribbed. Our philosophy is if you have a strong functional cow she will be able to produce by giving her excellent management and nutrition. We also strive for longevity. We are strong believers in classification and milk recording as well as any other tools that will help us improve our herd. In 2017 we received our Master Breeder Award which was a lifetime goal. Today we are working towards a 100 percent A2 herd as well as a top producing herd with strong type."

John and Bonnie are excited that the next generation is taking over ownership of both the farm and dairy. This has allowed them to be involved in the agriculture industry in other ways while networking with people who are also interested in moving agriculture forward. They also enjoy traveling to different countries and learning about their agriculture practices and culture.



Board of Director Updates

At an EastGen Board of Directors Meeting held immediately following the Annual Meeting **EastGen's 2019 Board Executive** was elected as follows:

- President – David Larmer
- Vice President – Phil MacLean
- Other Members – Doug Johnston and Joe Krol

Phil MacLean and Curtis McNeil were previously elected as Directors of the Semex Board for a two year term. Tom Pasco and Gerrit Wensink remain Directors of the Semex Board for a one year term.

Brian O'Connor was reappointed as Board Secretary. Nellie Endeman was reappointed as Board Treasurer.

Thornloe Cheese

At a Thornloe Cheese Board of Directors Meeting held immediately following the EastGen Board of Directors meeting it was determined that the 2019 EastGen Board of Directors would also act as Directors of Thornloe Cheese for the 2019 year.

The Thornloe Cheese 2019 Board Executive was elected as follows:

- President – David Larmer
- Vice President – Doug Johnston
- Other Members – Joe Krol

Brian O'Connor was reappointed as Board Secretary. Yves Gauthier was reappointed as Board Treasurer.

Special Thanks

On behalf of our membership and staff we would like to extend special thanks to Robert Wright (Zone 7) who was not eligible to re-run as he has completed the maximum term a director can represent the membership on the EastGen Board of Directors. We thank you for your passion, dedication and service to this organization over the years. Photo: Semex President and EastGen Board Member Gerrit Wensink (Right) extended special thanks to Robert on behalf of Semex and EastGen at EastGen's Annual General Meeting on March 28.



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No matter which index you align yourself with, you can be confident that all of the information that feeds the traits in each index is sourced directly from Canadian dairy farms.

Updating Indexes Going Forward

April 2019 will see the release of an enhanced Pro\$ formula, which will allow for selection for optimal daughter profitability in today's market conditions. In addition, LPI updates include the addition of trait weightings to better reflect market demands, as well as new traits to reflect breed association goals. In general, national indexes are updated every few years as market conditions or breed goals evolve. However, if important changes occur in our industry, for example to favour fat production to an even greater extent, indexes will be updated more frequently to reflect these changes.

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Results Focused.



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This is why at Semex & EastGen we're putting Fertility First. From the barn, to the lab, to the tank, and to the farm gate, we are science driven and results focused.

**Look for the Fertility First icon
on our APRIL 2019 proof sheet!**



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