

SELECTIONS

SPRING 2026

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YOUR SUCCESS *Our Passion.*

A TRIBUTE TO RICHARD H. L. "DICK" CHICHESTER

*David C. Thorbahn,
President and CEO, Select Sires Inc.*

On March 26, 2026, the Select Sires family lost one of the most influential, steady, and beloved leaders in its history. Richard H. L. "Dick" Chichester passed away peacefully, leaving behind a legacy that shaped not only Select Sires, but the entire artificial insemination industry in the United States. As we reflect on his life and leadership, our hearts are with his wife, Jackie, and the entire Chichester family. The Select Sires community is holding Jackie close in prayer, gratitude, and love.

Dick guided Select Sires for 26 years through one of the most challenging and transformative eras the A.I. industry had ever seen. When he stepped into leadership in the early 1970s, the cooperative was still young and creating its identity. The industry itself was shifting rapidly to large scale progeny testing. Many of the private organizations had significant funding for progeny test programs but the cooperatives were generally tighter on cash to invest. Yet through all of it, Dick's steady hand, calm presence, and unwavering commitment to farmers grew Select Sires and its programs into one of the most successful and respected A.I. organizations in the nation.

Those who worked with him often described him as a statesman among A.I. managers – measured, thoughtful, principled, and deeply respected. He was the kind of leader who could walk into a room full of tension and left it full of possibility. He had a gift for listening, for understanding the heart of a problem, and for guiding people toward solutions that honored both the cooperative structure and the farmers it served. His leadership was never about ego or authority; it was about service, stewardship, and doing what was right.

Dick's humility was one of his defining traits. He believed deeply that Select Sires existed for farmers, and he made decisions with their needs at the forefront. He often reminded his team, "Remember who your customers are. We are working for the benefit of the dairy and beef producer." That philosophy shaped every program, every investment, and every strategic decision during his tenure.

His respect for colleagues was equally profound. He surrounded himself with people he admired and people he trusted to challenge him, advise him, and help build something lasting. He valued honesty, even when it was uncomfortable. He valued expertise, even when it meant admitting someone else knew more. And he valued character above all else. Many of the individuals who helped shape Select Sires' genetic programs, marketing strategies, and operational systems were people Dick personally recruited, mentored, or empowered. He believed in hiring the right people and then giving them the space to excel.

His impact on Select Sires and the bovine industries was so profound that the board of directors honored him in a way reserved only for the most transformative leaders: they named the main office building after him. It stands today as a testament to his decades of service

and his vision for the dairy and beef industries. It is a daily reminder to employees, visitors, and members that Select Sires was shaped by a leader who cared deeply about people, progress, and purpose. The National Dairy Shrine recognized his extraordinary contributions by naming him Guest of Honor, the organization's highest distinction, in 1994. It was a fitting acknowledgment for a man whose influence extended far beyond Select Sires and into the broader fabric of the dairy and beef industries. Additionally, World Dairy Expo named him their Industry Person of the Year in 1995.

Even after his retirement, Dick remained a respected voice in the industry. His insights were sought after, his stories cherished, and his wisdom passed down to the next generation of leaders.

Dick was a great visionary, leader, mentor and friend to me and to all who knew him. His sage advice, gentle mentoring, and wonderful talks bettered Select Sires, and are things I will remember as long as I live.

In recognition of his lifelong dedication, a new scholarship has been established in his name at the National Dairy Shrine. For those moved to honor Dick's memory, contributions can be made at <https://dairyshrine.org>. This scholarship will support young people pursuing careers in agriculture, an enduring tribute to a man who believed deeply in the next generation and who spent his life helping others succeed.

Dick's story is woven into the history of Select Sires: the difficult early years, the challenges, the expansion of member cooperatives, the development of groundbreaking genetic programs, the rise of legendary bulls like 7H058 ELEVATION, and the steady growth of a cooperative that would become a global leader. But more than the milestones, it is the relationships he built, the trust he earned, and the integrity he embodied that define his legacy.

He was a leader who never forgot where he came from; a manager who treated every person with dignity; a colleague who listened more than he spoke; a mentor who believed in people. He was a devoted husband and father to Jackie and their four children, and a man whose life's work strengthened an entire industry.

The Select Sires family mourns his passing, even as we celebrate a life lived with purpose, humility, and heart. Dick Chichester leaves behind a legacy that will continue to guide and inspire for generations. May he rest in peace, and may his memory be a blessing to all who knew him. ♦



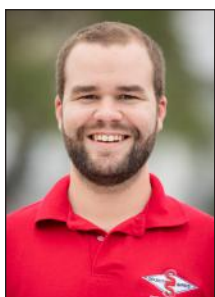


PROTECT YOUR HERD. YOUR PROFITS.

A single case of clinical mastitis can result in an economic loss of \$128 to \$444.

Mastitis costs the global dairy industry \$32 billion annually. Each case reduces milk yield, lowers pregnancy rates, and drives premature culling, while piling on veterinary bills, discarded milk, and added labor demands. With mastitis affecting nearly 1 in 4 cows in U.S. herds, the financial toll is undeniable, and management is only one part of the preventative equation. Use tools like Mastitis ResistantPRO® to boost your herd's genetic resistance to mastitis and safeguard your profitability.

FROM GENETIC POTENTIAL TO COW PERFORMANCE: WHY SELECTION STRATEGY MATTERS



Keith Gibson, Dairy Development Data Manager, Select Sires Inc.

Genetic selection capabilities in dairy cattle have advanced dramatically over time, driven by industry-wide collaboration, improved technology, and a continuous commitment from dairy producers to improve their herds. In 1936, the first sire evaluations were calculated for two traits: milk yield and fat yield. Today, producers can select from more than 50 traits of economic importance, with new traits emerging each year.

This progress has been made possible through the National Cooperator Database, stewarded by the Council on Dairy Cattle Breeding (CDCB).

This cumulative database of phenotypes (cow performance records) and genotypes, connected through pedigrees, now includes records from over 100 million individuals and more than 12 million genotypes of dairy animals around the world. More information creates more opportunity, but it also creates more decisions. With dozens of traits to balance, genetic selection has become increasingly complex.

As our ability to measure and analyze data has expanded, so has our understanding of what drives profitability, and the bottom line that a successful cow must do far more than produce milk. Over the past several decades, trait development has focused on longevity, health, and overall fitness. Since the 1990s, indicator traits such as Productive Life (PL) and Somatic Cell Score (SCS) have helped improve genetic resistance to disease, including mastitis. More recently, direct evaluations such as the mastitis resistance evaluation introduced by CDCB in 2018 have made selection for these traits more precise and effective.

With this broader set of traits, each with its own genetic parameters, genetic selection has become multifaceted. Selection indexes simplify this process by combining multiple traits into a single value, allowing

producers to make balanced genetic progress in several areas at once. While most widely used indexes strongly emphasize fat and protein production, they differ in how they prioritize health, fertility, and longevity.

At the same time, herd dynamics have evolved. The increased use of sexed semen and beef semen means most herds have tighter heifer inventories and reduced turnover in the cow herd, resulting in an increased average age of cows. This trend places greater importance on cows that can remain healthy, fertile, and productive into later lactations. Recognizing this shift, Select Sires developed the Herd Health Profit Dollars® (HHP\$®) index to more directly target the traits that influence a cow's ability to stay in the herd. Rather than relying heavily on later-life outcomes, such as overall Productive Life (PL), HHP\$ emphasizes fertility and mastitis resistance traits that can be measured earlier and are repeated across lactations over an animal's lifetime.

The advantage of this approach becomes clear when comparing the trait profiles of top-ranked sires across major selection indexes. When evaluating the top 100 Holstein A.I. sires from April 2026 genetic evaluations for various indexes, the leading HHP\$ sires remain competitive for Combined Fat and Protein (CFP) production and differentiate themselves through superior performance in health and fitness traits.

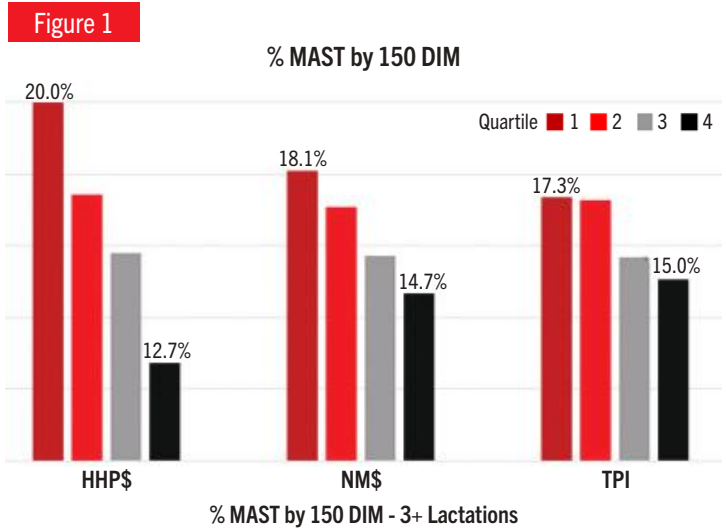
Top HHP\$ sires offer a strong combination of mastitis resistance, improved somatic cell score, and daughter fertility — all traits that contribute to cows remaining productive and profitable longer, while maintaining moderate body size.

	CFP	MAST	SCS	DPR	PL	LIV	STA	STR
HHP\$	181	2.6	2.82	-0.8	4.5	0.9	-0.1	-0.2
TPI®	181	2.1	2.84	-0.8	4.2	0.3	0.3	0.1
NM\$	188	1.4	2.92	-1.5	4.0	0.7	-0.8	-1.0
CM\$	188	1.5	2.92	-1.4	4.0	0.8	-0.8	-1.0
FM\$	186	1.2	2.93	-1.5	4.0	0.7	-0.9	-1.1

Select Sires' commitment to mastitis resistance is even more evident when focusing on that single trait. Industry wide, across more than 5,400 active and genomic Holstein sires, the distribution of CDCB Mastitis Resistance (MAST) PTAs during the April 2026 evaluations ranged from -6.1 to +5.8, with an average of +1.2. When looking across the 18 organizations with at least 70 sires enrolled, the Accelerated Genetics, Select Sires and GenerVations brands rank first, third and fourth, respectively, for their sires' average MAST PTA.

While PTA comparisons provide valuable insight into genetic potential, what ultimately matters is how those differences translate into real cow performance. Expanding upon the analysis previously referenced by Chuck Sattler, Senior Vice President of Genetic Programs and Research, in the Winter 2026 issue of Selections, animals were evaluated for key indicators of lifetime performance. One of the strongest pieces of evidence that HHP\$ works comes from looking at the percentage of cows with a mastitis event in the first 150 days in milk during their third or greater lactation. (Figure 1)

The results clearly demonstrate the impact of selection strategy on cow health outcomes.

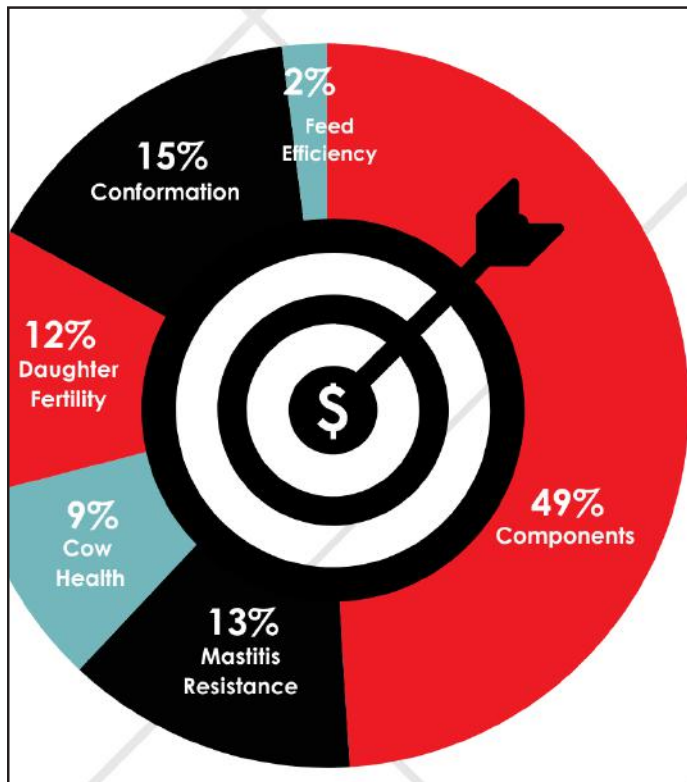


Across all three indexes, mastitis incidence decreases from the worst (Q1) to the best (Q4) quartile. However, the magnitude of improvement is greatest for HHP\$, with the top quartile of HHP\$ animals outperforming the best animals identified by other indexes for MAST. These cows achieved this level of disease resistance without sacrificing lifetime fat and protein production, while also having the most lifetime days in milk and the highest proportion of cows reaching their fourth lactation.

These results highlight an important takeaway: selection decisions that place greater emphasis on health and fitness traits translate into measurable improvements in cow performance. By prioritizing traits that influence longevity and disease resistance, producers can build herds that are not only productive, but also more sustainable, profitable, and resilient over time. ♦



Scan to to read Chuck Sattler's Winter 2026 Selections article: **Success Starts with Smart Selection**



HHP\$

FORMULATED TO SUPPORT YOUR HERD'S ECONOMIC GOALS

Genetic progress equates to greater economic sustainability.

Select Sires' Herd Health Profit Dollars (HHP\$) is the premier index to achieve your dairy's profit goals. It is designed to create healthier, longer-living cows to support your herd's inventory strategy without sacrificing genetic gains.



Scan to learn more about HHP\$

POLLED *Progress*



Leverage Select Sires' expansive Polled lineup to reach pinpointed genetic goals while adding the Polled gene to your herd. With **58** unique Polled options available, our genetic lineup offers a sire for every desire. Scan the QR code to view the complete list of available sires.



25 Profit-Driven Heterozygous Polled Young Sires*

Averaging:

+836 HHP\$®

TOP SIRES

HHP\$

507H018401	MVP-P	+1,039
14H017533	AZUL-P	+1,031
14H017204	TWISTED-P	+ 966
7H018096	RONAN-P	+ 936
250H018259	HOSTENS-P*	+ 933



9 Type-Boosting Young Sires From the Showcase™ Lineup

Averaging:

+2.84 TYPE

TOP SIRES

TYPE

250H018358	CRYPTO PP RC	+3.15
250H017699	PRACISE RC-P	+3.11
7H017158	HOLY-P	+3.03
250H017560	PARIAN-P	+2.99
250H017297	HANTASTIC-P	+2.97



Achieve Polled in One Generation - 12 Homozygous Polled Young Sires*

Averaging:

+656 HHP\$

TOP SIRES

HHP\$

14H018231	DOSPOLL-PP	+875
7H018135	YUMA-PP	+784
250H018208	BEEGONE-PP	+771
7H017370	SNOWHARE-PP	+740
7H018191	FLEX-PP	+704

Top - Bottom: TWISTED-P; PRACISE RC-P; SNOWHARE-PP, Jordan photos. *Identifies NxGEN® sire. **Sort does not include Showcase, Showbox Sires®, Red Carrier or Slick sires. 04/26 CDCB-S/HA Genomic Evaluations. Non-conformation traits are Powered by CDCB™. % Rel. Type: CRYPTO PP RC 79; PRACISE RC-P 79; HOLY-P 82; PARIAN-P 82; HANTASTIC-P 81. All *gender* SELECTED semen is processed using Ultraplus™ technology. Ultraplus is a trademark of STGen LLC. **Limitations and Conditions of Sale:** *gender* SELECTED semen shall be used only for the single insemination of one female bovine during natural ovulation with the intent to produce a single offspring unless specifically approved on an individual customer basis by Sexing Technologies in writing. As a condition of purchasing *gender* SELECTED semen, the purchaser agrees that *gender* SELECTED semen will not be reverse sorted or re-sorted unless specifically permitted, in advance, on a case-by-case basis by Select Sires in writing. Select Sires intends to monitor the use of the *gender* SELECTED semen and vigorously enforce these restrictions on use. Please see <http://www.selectsires.com/designations/gendersselected.html> for additional details.

UNDERSTANDING INBREEDING

WHAT EVERY BREEDER NEEDS TO KNOW

Inbreeding is an inevitable byproduct of genetic selection and occurs when an animal inherits identical-by-descent (IBD) alleles from both parents due to shared common ancestors. As the industry selects for elite genetics, animals become more related over time, increasing homozygosity across the genome. Managing inbreeding effectively is critical to sustaining long-term genetic progress. Genomic inbreeding is the gold standard. It does not require pedigree data, accounts for real gene segregation differences, and enables separation of high-risk vs. low-risk inbreeding regions.

Pedigree-Based

Calculates IBD probability from known ancestry. Simple but affected by pedigree errors and does not fully account for gene segregation; full siblings get the same value.

Genomic (ROH-Based)

Uses runs of homozygosity (ROH) across the genome. This more accurately captures actual gene segregation, so full siblings can differ. Enables high- vs. low-risk classification.

HIGH-RISK vs. LOW-RISK INBREEDING

Don't panic about a high inbreeding number alone. What matters is how much of that inbreeding comes from long (recent) ROH segments vs. short (ancient) ones. Genomic tools like ROH can distinguish between the two.

LONG ROH SEGMENT

=
INBREEDING FROM RECENT COMMON ANCESTORS

=
HIGH-RISK

Deleterious recessive alleles have not been exposed to selection and may still be hiding.

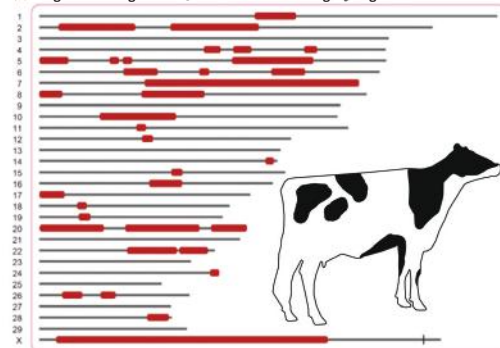
SHORT ROH SEGMENT

=
INBREEDING FROM DISTANT COMMON ANCESTORS

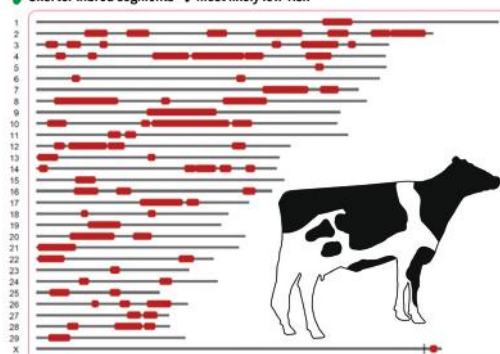
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LOW-RISK

Multiple generations of crossover and selection have likely purged harmful alleles.

COW A Inbreeding Level: 20%
✗ Longer inbred segments → More recent inbreeding → Higher risk



COW B Inbreeding Level: 20%
✓ Shorter inbred segments → Most likely low-risk



INBREEDING, SELECTION AND GENETIC PROGRESS

Despite increasing inbreeding, no major production decline has been observed, likely due to improved management and effective selection. Over the past 50 years, North American Holstein NM\$ has risen sharply alongside a steady rise in inbreeding (about 10%). The primary long-term risk is loss of genetic diversity, which limits future progress and adaptability and is slow to recover.

PRACTICAL ACTION ITEMS FOR YOUR HERD

1. Diversify sire selection by using a wider range of bulls across varied sire lines.
2. Focus on parent relationships, not parent inbreeding.
3. Use Select Mating Service® (SMS®) to maximize genetic progress while controlling diversity.
4. Identify bulls with low relationship levels to your herd and include some of them as service sires.

TWO animals at the same inbreeding % can carry very different risk profiles depending on their ROH distribution.

WHAT THIS MEANS FOR YOU.

The sky is not falling - but complacency is not an option. Genetic progress continues to accelerate, and current inbreeding levels have not caused significant production losses. Connect with your local Select Sires representative to actively manage inbreeding in your herd. ♦

Read the full three-part series written by Mehdi Sargolzaei, Ph.D., Director of Genetic Research, Select Sires Inc.



PART 1:
IS THE SKY
REALLY
FALLING?



PART 2:
HIGH-RISK VS.
LOW-RISK
INBREEDING



PART 3:
INBREEDING
TRAJECTORY: CAN IT
CONTINUE WITHOUT
CONSEQUENCE?

TOO FULL, TOO EMP

HOW FULL IS YO



Dr. Gavin Staley, Dairy Technical Services Specialist, Diamond V

Recently published United States Department of Agriculture (USDA) dairy heifer numbers suggest the U.S. dairy industry may be entering what could be described as an unplanned longevity study.

National dairy heifer inventories have been in steep decline since 2020, driven largely by a shortage of beef feeder cattle and the widespread adoption of sexed semen, enabling selective breeding of offspring.

Why heifer inventories matter

The “expected to calve” number of heifers for 2026 is 2.5 million, the lowest in 48 years. It is worth noting that low heifer inventories are not consistent across all regions, and some variation by herd size and geography likely exists.

Assuming the USDA numbers are accurate, this means that herd replacement rates will drop below 30% and culling rates will therefore also need to be less than 30%, if overall dairy herd size is to be maintained. In some cases, dairies may struggle to find replacements at all. This creates a new reality: more cows will need to remain in the herd longer.

This means that dairies will need to retain a certain percentage of seventh or eighth lactation animals. This is a remarkable challenge. cursory evaluation of dairy records quickly reveals that most dairies do not have many cows in these parities.

There are well-recognized reasons why dairy cows are culled and do not reach later parities. These are: transition disease, mastitis, lameness, reproduction and production. Older cows are particularly vulnerable to these challenges. In other words, keeping cows longer is not simply a decision. It requires systems that can support older animals. **Therefore, dairies will need to focus on:**

1 Creating the right number of mature, healthy replacement heifers for their dairy (with a 5% buffer). This is a longer-term objective since there is a three year delay, even if a heifer is created today.

2 Removing or mitigating the bottlenecks that lead to cows leaving the dairy.

Furthermore, heifer raising becomes even more important since there are fewer replacements. These animals will need to be as healthy and productive as possible.

Creating healthy, older cows means that the narrative needs to change from “lifespan” to “healthspan.” Healthspan focuses on how long cows remain healthy and productive, not just how long they remain in the herd.

The large current national dairy herd size must be driven by an increase in older cows in the herd, since replacements have been lower for at least three years. However, an important consideration is that field reports suggest a large number of cows (that would have previously been culled) are being retained because they are carrying a beef-on-dairy calf. Just how many will leave the herds after calving remains to be seen.

Therefore, it is reasonable to expect some level of dairy herd contraction, with predictable ramifications on milk price and heifer replacement costs. Will there be enough heifers resulting from sexed semen usage? With a three-year “lag time” until that animal reaches the milking herd, will it be too little too late?



TY, OR JUST RIGHT?

UR HEIFER PEN?



Scott Earnest, DVM, Lead Technical Service Veterinarian, World Wide Sires, Ltd.

Tools for managing heifer inventories

The market price of dairy replacements and beef-on-dairy calves has never been higher, with the calf check carrying many dairies through difficult milk prices. Putting the right number of heifers on the ground and protecting that investment from conception to the milking string is essential, now more than ever.

Optimal replacement rate is a complex topic. “Optimal” differs from farm to farm and year to year. Many producers have made immense progress with dairy cow longevity, by way of improved fertility, housing, genetics, and management. Dairies that used to struggle to keep up with the rate of cows “needing to exit” now find themselves with the opportunity to choose which cows should have a next lactation. That hard-earned flexibility is a great opportunity, but one that must be evaluated carefully. Just because a cow can stay another lactation doesn’t mean she should, if her production level and maintenance costs fall below that of an available replacement who could occupy her stall.

Optimizing production per stall and studying the net cost of swapping a cull cow for a replacement are key to determining the optimal longevity of each individual animal. Producers should take great pride in the cows that perform above herd average well into maturity, but must be clear-eyed about those performing below the average as time takes its toll and their efficiency slips.

The high value of beef-on-dairy calves in North America has trimmed the supply of heifers on many dairies. Failure to plan for an optimal number of replacements leads to inferior animals remaining in the

milking herd. This can be a drag on herd average production, health and reproduction, and leads to increased death loss and lower salvage values from cull animals.

It is important to understand the number of springers needed to avoid these hazards. Beyond that, the number of female calves needed at birth to yield the targeted number of healthy fresh two-year-olds must be determined. Ultimately, it is best to work back to the number of breedings needed to put these live calves on the ground. Build today’s plan around the current performance of your dairy and replacement programs, while studying those programs for opportunities to improve their efficiency in the future.

Planning your dairy replacement needs starts with a thorough review of historical data, nuanced by any expected future changes in replacement needs. Adjustments could be driven by a planned change in herd size, a desire to move towards a higher or lower replacement rate, or adjusted expectations for heifer non-completion rates based on calf health or heifer reproductive performance.

Your Select Sires representative can help you define goals and review historical data on replacement needs, inventories, and heifer completion rates using the Genetic Strategy Calculator or Optimal Genetic Pathways replacement inventory calculator tools. Female genetics available to utilize for your replacements are then characterized using genomic data or with Select Sires’ Pedigree Index Calculator, and optimized matings provided using Select Mating Service® (SMS®) mating tools. These tools allow producers to accelerate genetic progress of their herd using the right number of replacement heifers while maximizing revenue from beef-on-dairy calves. ♦





BALANCE, FORTIFY, EXTEND: OPTIMIZING SALABLE MILK FOR PREWEANED CALVES

Dave Cook, Ph.D., Technical Services Manager, Milk Products Inc.

Nearly half of all dairy calves in the United States receive whole milk during the preweaned stage, sourced from waste milk, salable milk, or a combination with milk replacer. Regardless of source, the goal of any whole milk program should be consistency and complete nutrition. Ensuring every feeding meets these standards helps maximize the lifetime production potential of calves.

Nutritional Content

Whole milk provides adequate B-complex vitamins, vitamin A, and macrominerals like calcium, phosphorus, magnesium, sodium, potassium, and chloride^{1,7}. However, whole milk is deficient in minerals and vitamins critical for optimal growth and immune function, including iron, manganese, zinc, copper, iodine, cobalt, selenium, vitamin D, and vitamin E, compared to established preweaned calf requirements.

Although starter grains are often fortified with these missing nutrients, intake is minimal in the first weeks of life. Whole milk also lacks commonly recommended additives that support calf health and development.



Accel Milk Fortifier from Select Sires Inc. can be added to whole milk to correct these known vitamin and mineral deficiencies.

- Fortifies pasteurized whole milk with essential vitamins and minerals at a low 9-gram inclusion rate per calf per day
- Includes Tri-Mic WD – a probiotic source to improve digestive microflora
- Formulated with yeast cell wall extract (MOS) to support intestinal health
- Medicated with Bovatec® for control of coccidiosis
- ClariFly® larvicide to prevent the development of house, stable, face and horn flies in the manure of treated calves

References

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Optimizing Milk Components

Typical whole milk contains 25%–28% protein and 28%–30% fat on a dry matter basis, yielding a protein-to-fat ratio below 1.0. Research shows that higher protein levels promote lean tissue growth and skeletal development, while high-fat diets can produce shorter, heavier calves that reach breeding targets later.

A target protein-to-fat ratio above 1.0, ideally around 1.4 (e.g., 24:18), supports intensive nutrition programs. Simply increasing milk volume adds fat without improving the protein balance, which may also suppress starter-grain intake.

Whole milk is roughly 12%–12.5% solids. Many calf raisers add milk replacer powder to increase solids and dry matter intake without increasing feeding volume. For example, adding 17 pounds of milk replacer to 100 gallons of 12% solids whole milk raises solids to 14%, increasing calf dry matter intake from 0.96 lb. per calf per day to 1.12 lb. per calf per day. However, this may not correct an imbalanced protein-to-fat ratio. If the milk test for protein is 3.5% and the fat is 4.2%, the dry matter protein to fat will be 27.8:33.3 (0.83).

Additionally, this approach allows for better management of salable milk, using it efficiently while ensuring calves receive optimal nutrition.



Accel Whole Milk Protein Pivot is a milk replacer powder formulated to adjust the protein-to-fat ratio while increasing solids of whole milk. With 28% high-quality milk protein and 8% fat, it helps to extend whole milk volume while achieving optimal protein-to-fat balance.

Example:

1. Start with 60 gallons of 12% solids milk
 2. Add 58 pounds of Accel Whole Milk Protein Pivot and 35 gallons of water
 3. Extend feed to 100 gallons at 14% solids
- Resulting protein-to-fat ratio: 25.3:20.9 (1.2)**

Benefits of an optimized protein-to-fat ratio:

- Increased average daily gain and skeletal size
- Improved starter-grain intake
- Enhanced mammary gland development

Three important ways milk enhancers can improve a dairy's supply of pasteurized whole milk:

1 BALANCE

Balancers typically provide a higher level of protein with a minimal amount of fat. They also increase the total solids and overall liquid volume when added to whole milk. When fed at the appropriate rate, balancers act as fortifiers, supplying the necessary vitamins, minerals, and other additives. When a balancer is used, the protein:fat ratio is improved, the whole milk is fortified and the volume is increased.

BALANCE P:F RATIO

- Add a higher level of protein
- Minimal amount of fat

ACHIEVE TARGETED SOLIDS LEVEL

MAY FORTIFY WITH VITAMINS AND MINERALS

INCREASE VOLUME

2 FORTIFY

Fortifiers contain additives such as vitamins and minerals to bring whole milk nutrition content in line with National Research Council guidelines. Other options include adding larvacides for fly control, and ionophores for growth promotion and coccidiosis prevention. When fortifiers are used, the volume of liquid is not markedly increased.

ADD VITAMINS AND MINERALS DEFICIENT IN WHOLE MILK

LARVACIDES FOR FLY CONTROL

COCCIDIOSIS PROTECTION

SPECIALTY ADDITIVES

- Functional proteins (plasma)
- MOS, DFMs and essential oils

3 EXTEND

The supply of whole milk can vary considerably and extenders can be used with the primary objective of increasing the liquid milk volume. Extenders, which are commonly complete, non-medicated milk replacers, contribute vitamins and minerals, but the significance is limited by inclusion rate. When using extenders, there is not a focus on changing total solids or protein:fat ratios.

INCREASE VOLUME

MAY FORTIFY WITH VITAMINS AND MINERALS

Pasteurized milk enhancers can be used in both individual feeding systems and autofeeders in a group housing setting. They are also highly beneficial in adjusting milk rations to help animals cope with cold and heat stress.

With the improvements provided by pasteurized milk enhancers, feeding a diet of whole milk can truly be the optimal choice for preweaned calf nutrition programs. ♦

PROVEN POWER

Select Sires' Jersey lineup delivers reliable, consistent and athletic cows that enhance efficiency and drive profitability.



DRIVE GENETIC PROGRESS WITH ECONOMICALLY IMPORTANT TRAITS:

DELIVERING JPI™ LEADERS

9 SIRES

AT OR ABOVE +130 JPI

Our proven lineup is sired by 12 unique sires, and 12 unique maternal grandsires!

BOOSTING TOTAL SOLIDS

8 SIRES

AT OR ABOVE +45 CFP

PROVEN LINEUP AVERAGES:

+126
JPI

+345
HHP\$°

+418
MILK

+42
CFP

+0.7
DPR

2.92
SCS

105
Z MAST

+0.5
TYPE

+16.1
JUI™

96%
Y REL.



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Herby Lutz, Jersey Development Manager

Averages do not include Showcase™ sires. 04/26 CDCB-S/JCA Genomic Evaluations. Evaluations in this advertisement are Powered by CDCB™.



Fertility Tools

Leverage these fertility tools to drive greater reproductive efficiency for your herd today and into the future.

TODAY

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The **Elite Sexed Fertility** icon designates sires that can help you achieve the highest sex-sorted semen conception rates, enhancing the return on your investment! This designation identifies *gender* SELECTED™ sires with above average conception performance for sex-sorted semen in both 2M and 4M products.

FERTILITYPRO®

FertilityPRO identifies sires with semen that will likely improve pregnancy rates. This designation is assigned by examining industry Sire Conception Rate (SCR) values, along with intensive in-house semen quality evaluations.

FOR THE FUTURE

Fertility Index (FI) combines several reproductive components into one overall index: Daughter Pregnancy Rate (DPR), Heifer Conception Rate (HCR) and Cow Conception Rate (CCR). By utilizing three measures, FI can provide a more accurate evaluation of daughter fertility rather than relying solely on DPR or CCR.

ELITE SEXED FERTILITY SIRES

FI

GFORCE™	
7H016966 SANBORN	1.8
7H017142 STAGGER	1.4
250H017346 BOLDNESS	1.2
14H017393 OZARK	1.2
14H017453 SERRANO	1.0
250H017653 BONAPPETIT	0.7
7H016763 KEANU	0.4
7H017267 GABE	0.2

FERTILITYPRO SIRES

FI

GFORCE+™	
7H017547 TUNE UP	2.8
14H017311 HOODIA	1.9
GFORCE	
14H017550 RAGNAR-RED	1.5
14H017659 OPIE	1.4
PROVEN	
7H015754 ZAPPA	1.1
250H016290 BLAKELY	0.5



THE ROLE OF COW LONGEVITY IN IMPROVING DAIRY EMISSIONS EFFICIENCY



Joanne Knapp, Ph.D., P.A.S., Chief Scientific Officer, Low Carbon Technologies

Chuck Sattler, Senior Vice President of Genetic Programs and Research, Select Sires Inc.

For dairy producers, improving operational efficiency is nothing new. Managing costs, maintaining herd health, and maximizing production have always been central to profitability. What's changing is how these same drivers are now being linked to methane emissions and broader sustainability metrics.

Efforts to reduce methane emissions from dairy farms have largely focused on manure management, including digesters and improved manure storage systems. These investments can play an important mitigation role, but they address only a portion of the overall emissions

picture. Depending on animal housing and manure management practices, manure methane can account for roughly 1% to 35% of a dairy's total greenhouse gas (GHG) emissions.

The balance comes from familiar areas of the operation: fuel use, feed and other inputs, and the cow herself. Methane produced during rumen fermentation, known as enteric methane, is released as cows convert feed into milk. This area is a focus of sustainability discussions across the dairy industry.

Reducing enteric methane, however, is not about restricting a cow's biology. Strategies that interfere with rumen function, cow health or milk production create tradeoffs that don't pencil out economically. For that reason, many real-world, effective approaches focus on improving efficiency rather than restricting cows. One of the most practical, and familiar, opportunities is improving cow longevity and reducing the number of replacement heifers needed.

Why longevity matters

Healthier cows that remain productive for more lactations allow farms to optimize culling rates and retain fewer replacements. Producers already recognize the economic advantages of this approach, including reduced youngstock raising costs and increased flexibility to capture value through beef-on-dairy calves.

What's less often discussed is how these same decisions affect methane emissions. Replacement heifers require considerable resource investment and produce methane long before they begin lactating. As the number of fresh heifers in a herd increases, more animals are needed overall to sustain the same level of production.

Improving cow longevity changes that dynamic. By helping cows reach their full genetic potential and extending their productive life beyond the current average of 2.3 lactations, farms can significantly improve efficiency. Research shows that cows achieve their greatest productive potential during their third and fourth lactations. Reaching these later lactations allows a larger proportion of a farm's fixed and variable inputs such as rearing, housing, and health care to be allocated toward milk production rather than replacements. Retaining cows also increases the lifetime milk per cow, lowering methane intensity per unit of production.



What the data shows when culling rates change

To better understand how culling decisions influence emissions and efficiency, a series of culling scenarios were evaluated using a representative 1,000-cow Holstein herd. Herd size was held constant, and milk production reflected current industry averages. The purpose of the analysis was not to identify an 'ideal' culling rate, but to understand how changes in replacement pressure affect production, efficiency, and emissions across the system (Table 1).

Table 1

	Herd 1	Herd 2
Herd Size	1,000	1,000
Cull Rate	30%	40%
Post-Weaning Replacement Heifers	800	890
Heifers Purchased	0	83
Surplus Heifers	14	0
Total Emissions (1,000 Metric Tons)	17.516	18.535
First Lactation Cows	350	450
Second Lactation Cows	245	270
Third+ Lactation Cows	405	280
Total Heifers and Cows	1,786	1,973



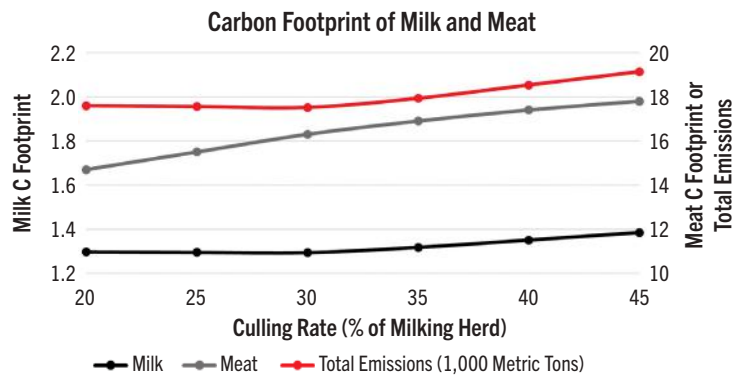
As shown in Table 1, increasing culling rates leads to higher replacement needs, including more heifers raised or purchased, and fewer surplus animals available for sale. At the same time, total milk production declines modestly as the proportion of first lactation cows in the herd increases.

From an emissions standpoint, the results show that moderate changes in culling have little impact on the carbon footprint of milk itself. Emissions per unit of milk remain relatively stable until culling rates exceed approximately 35%.

Higher culling rates require more replacement heifers, increasing the total number of animals in the milking herd. Feed efficiency declines modestly as more resources are directed toward raising replacements rather than producing milk. Total emissions also increase as overall animal days in the herd rise.

Emissions associated with meat production increase substantially in correlation to the number of animals maintained in the herd. Together, these results highlight the close connection between culling decisions, replacement pressure and emissions intensity.

Figure 1



Don't let up on your strategy

Managing a herd of more mature cows can present different challenges than managing cows in their first or second lactation including increased incidence of mastitis, lameness, costly days open or other health events. This makes a targeted genetic strategy essential.

Select Sires' Herd Health Profit Dollars® (HHP\$®) prioritizes the traits that make the greatest impact in addressing these challenges and helps to create cows that continue to be profitable later in life. By helping cows achieve their genetic potential, operations are better positioned to reduce replacement pressure, enhance their profitability and improve emissions intensity.

Not all strategies to reduce emissions require financial investment for substantial results. Improving cow longevity and optimizing heifer retention is a practical, verifiable approach that aligns long term economic performance with positive environmental outcomes. ♦



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