

Genetic Trends®

January 2009 • Vol. 61 No. 1



First to use DNA Research
in the Industry!

GENETICVISIONS®



- The Genomics Revolution
- Double-Ovsynch Improves Fertility
- Sire Features: Phil G, Doman & Driver
- ACC-SS™ Sexed Semen Available
- Essential Solutions Revealed

Accelerated Genetics®



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ON THE COVER

Accelerated Genetics was the first to use DNA research in the A.I. industry over 20 years ago and today continues its visionary strategy through its research arm, Genetic Visions, Inc. The 'Genomics Revolution' is upon us as this January's Dairy Sire Summary now includes Genomic PTAs. To learn more about Genomics and Accelerated Genetics' long history of DNA research turn to page 4. Additionally, to see what's new in the Dairy Sire Guide that is mailed with your issue of Genetic Trends turn to page 9 to learn about GeneFORCE sires. Cover photos by Angie Lindloff, Cybil Fisher and Frank Robinson.

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A SHORT REVIEW OF 2008 PREPARES US FOR THE YEAR AHEAD



BY: JOEL GROSCKREUTZ, PRESIDENT & CEO

Technologies, Navasota, Texas, and have set up an operational semen-sexing lab at our Westby Production Facility. We are excited to add another semen technology product line called ACC-SS™ sexed semen to producers around the world.

GENOMICS IS CHANGING THE INDUSTRY

One of the new chapters in the A.I. industry is that of Bovine Genomics with the official release of genomic PTAs here in January. Genetic Visions, Inc., our own subsidiary, has been at the forefront of DNA research since 1988. And this past summer our Board approved the purchase of genomic scanning equipment, which advances our own genetic testing capabilities and is the next evolution of our research efforts.

Now with DNA scanning and translation, the genetic worth of sires as young as one day of age may be better predicted. Instead of waiting years, we will be able to increase genetic progress today. With this sire summary we are excited to release a new line of sires called GeneFORCE. This group of young sires are genomically superior having high Net Merit and high TPI rankings. We are giving you the opportunity to invest in these emerging young sires earlier with greater confidence.

Dr. Mike Cowan, General Manager for Genetic Visions and Vice President of Research for Accelerated Genetics, was recently recognized by the NAAB for all his efforts in DNA research. Thus, further accrediting the DNA research efforts of Genetic Visions and Accelerated Genetics for the past 20 years.

OUR SECRET WEAPON

Financial stability, debt-free operations and cutting-edge technologies is exciting, but perhaps the greatest secret to the success of Accelerated Genetics is the **PEOPLE**. The dedicated staff and knowledgeable, experienced field representatives all strive to be the forerunner in developing innovative technologies and exceptional services that will aid **YOU**, our customers, in achieving your ultimate herd goals. We appreciate you, our loyal customers, and promise to be responsive to your expectations and future needs.

I look forward to the year ahead. Together We Can Accomplish Great Things!

Genetic Trends - January 2009

The past year at Accelerated Genetics was filled with industry challenges, new growth opportunities and leadership changes. We sincerely thank you for your business this past year and congratulate you on another stable year for Accelerated Genetics.

VERY SUCCESSFUL YEAR

Unit sales exceeded last year's record performance and finished at 4.68 million units. More units than ever were processed at our Westby Production Facility due to the expanded sire buildings, coupled with last year's completion of the state-of-the-art semen processing lab and expanded semen distribution center.

Total revenue achieved a new record as well at \$46,351,654. This represents an increase over last year's record performance by \$3.7 million. Even though many areas contributed to this outstanding year, the weaker U.S. dollar certainly contributed to attract additional international sales. Overall we had steady growth internationally through our entire distribution network in Latin America and Canada, and with World Wide Sires' sales efforts. Also, further growth was witnessed within our domestic markets.

Animal health product sales rocketed beyond our goals and finished the year with \$10.8 million in sales. Accelerated Genetics was the first in the A.I. industry to diversify

into farm products, which was started in the mid-1970's. This diversification has proven to be beneficial in opening up new market places while providing solution-based products that assist our customers in maximizing their herd's genetic potential.

INVESTMENT INTO THE COOPERATIVE

Accelerated Genetics has continued to reinvest in core operation projects that add to the production efficiency or capacity of your bull stud. During the past year a new 24-stall EU Sire Isolation facility was built to help the ingress flow of young sires into the main population. An additional 60-stall West View facility for sires in-waiting was also constructed which helps us build sire numbers and continue to be competitive.

Sire nutrition and comfort was also enhanced during the year with the addition of a new hay storage shed to keep large square bales out of the elements. And new mattresses were added to the 'The Palace' where the most valuable sires reside. Further, a renewed focus on sire health, semen processing techniques and semen quality results has been implemented, utilizing the latest methods in the industry furthering Accelerated Genetics high-quality product offering.

SEXED SEMEN NOW AVAILABLE

We are proud to announce that we have signed an agreement with Sexing



Photo by: Char McCauley

The 2008-09 Board of Directors that lead Accelerated Genetics' forward momentum.
Standing: Pete Kirchner, Gary Eibergen – Second Vice Chair, Dave Score – First Vice Chair, John Pronschinske, and John McClelland, Jr. Sitting: Dennis Bell, Doug Thesing – Secretary/Treasurer, Brian Brown – Chair of the Board, Carol Anderson and Rick Carlson.

THE GENOMICS REVOLUTION IS UPON US



BY: KARI STANEK, COMMUNICATIONS & PUBLIC RELATIONS COORDINATOR

Genetic progress just got faster with the release of Genomic Evaluations during the recent Dairy Sire Summary. A quick bit of history – prior to 1935 there was no national program for evaluating dairy cattle breeding and no real genetic progress was made. Over the past 74 years various programs and/or traits have been introduced, each increasing the rate of genetic progress in differing amounts and improving the dairy cow. The recent employment of genomic evaluations is projected to have one of the largest impacts on genetic gain for our industry, ultimately assisting dairy producers in selecting the best genetics for their herd.

GENOMICS...EARLY INNOVATIONS

Accelerated Genetics is the true A.I. industry leader and pioneer in DNA research and application of the test results. Over twenty years ago Genetic Visions, Inc., Accelerated Genetics' research subsidiary, began using genetic markers to assist with identifying young animals that had superior genetic potential. Most of the attention centered around choosing among full siblings, when the animals were young, when progeny or performance data was absent or for sex-limited traits. Genetic Visions also developed generic applications used in dairy herds including identifying carriers of recessive defects and finding parentage errors. Again, Accelerated Genetics was the leader in the industry offering these services for customers and A.I. partners around the world.

GENETIC VISIONS®



Dr. Mike Cowan, General Manager for Genetic Visions, Inc. and Vice President of Research for Accelerated Genetics, is running the genomic scanning equipment using Illumina's Bovine 50K SNP Assay. *Upper left corner:* This is a picture of four prepared Illumina Bead Chips (the black colored plates) being placed into a hybridization chamber ready to be scanned. Each Bead Chip can hold DNA of 12 different animals and each run can genotype 48 animals at once.

Accelerated Genetics along with other members of the Cooperative Dairy DNA Repository, provided critical DNA samples for the foundation studies of the USDA's Bovine Genome Selection research. And through Genetic Visions' extensive bovine DNA storage from its years of research, vast amounts of DNA with a wider ancestry was provided, thus further adding to the accuracy of the new genomic evaluations. In fact, Genetic Visions is the only bovine research lab with extensive records and blood samples of bull dams existing prior to 1996.

GENOMICS...OFFERS A GENETIC MAP

Traditionally for young bulls the only information available was their Parent Averages (PA) based on their pedigree. Now with genomics, a genetic map of what traits they inherited from each of their parents is available and summarized into genomic evaluations.

The genomic evaluation of a young sire includes the combination of their PA and genotypic data, providing more reliable results. Having an accurate estimate of young animals genetic merit will encourage the use of young sires as parents in various breeding programs and gives the potential to more rapidly increased genetic progress. For sires that have progeny with type and production data, their genomic estimates are a combination of their genotypic data, PA, and progeny data.

Genomic evaluation results look like Traditional PTAs (for yield, type, and management traits) and STAs (for linear traits), so producers don't need to learn a new evaluation system. The industry will label bulls that have been genomically tested. But some sires won't have their genomic estimates included in their January Sire Summary

information instead their Traditional PTA and STA data will be used, here's why:

- 1) Some bulls haven't been genomically tested by their A.I. company.
- 2) Some bulls have a higher reliability from their Traditional genetic evaluations, so the higher reliable estimate is used.
- 3) Some bulls have a MACE Interbull proof and currently there is no mechanism in place for them to handle genomic evaluations.

GENOMICS...OUR APPROACH

All Accelerated Genetics sires in the Holstein and Jersey breeds have been genomically tested, both young and proven sires. This policy was initiated so that our sire's evaluations would be more accurate and to help better manage our bull populations. Accelerated Genetics firmly believes in validating what the genomic research has shown, by continuing our PACE young sire program. Young sires will continue to go through our PACE program, randomly sampled by herds all over the U.S.

We have also incorporated the use of genomic results into how we acquire bulls for our PACE program. Meaning we are selecting sires with the highest quality genomic scores while keeping a diversified pedigree. Overall the PACE herds will have the advantage of much better genetics due to removal of bottom end bulls prior to sampling.

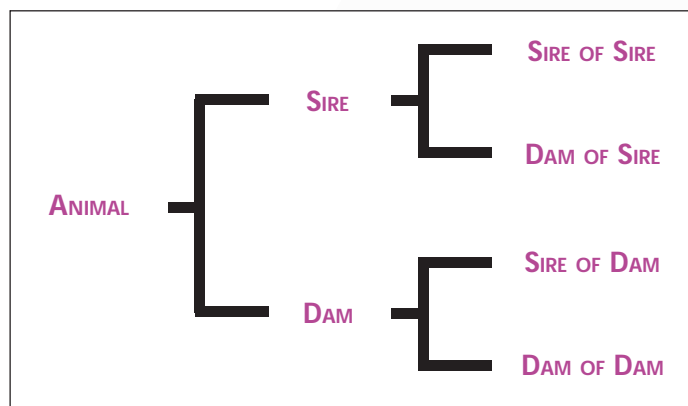
The genomic selection process at Accelerated Genetics can be easiest explained when looking at full siblings as all are assigned same Traditional PAs. Only after getting the genomic estimates for their PTAs and STAs can you really see the differences between full sibling bull calves. And sometimes the difference between full siblings can be significant.

For example in Table 1, we compared three full sibling bull calves using Net Merit (NMS) and Productive Life (PL) as traits. In the past a bull stud may have chosen Bull B, based on his physical appearance and conformation. Now, with the help of genomic analysis, it is clear that Bull B is not even close to his siblings

TABLE 1. APPLICATION OF GENOMIC PTAs TO CONTRACT BULLS

ANIMAL	TRADITIONAL NMS	GENOMIC NMS	TRADITIONAL PL	GENOMIC PL
BULL A	415.5	411	1.3	1.3
BULL B	415.5	207	1.3	-0.2
BULL C	415.5	472	1.3	1.4

FIGURE 1. TRADITIONAL PEDIGREE



on NMS or PL. So the bull stud would want to avoid Bull B and purchase Bull C, whose Genomic NMS is clearly higher than his Traditional NMS. The same would be true for females genomically tested.

Clearly with genomic evaluations, PACE herds will benefit by sampling more genetically superior, higher reliable young sires than in the past. And producers will be able to make more rapid genetic progress, with bulls that have been pre-selected according to their genomic profile, particularly for low heritability traits like fertility, longevity and health traits.

Another way for producers to cash in on genetic progress is by using GeneFORCE sires. Accelerated Genetics is making a select few highly-valued, genomically-tested sires available. These sires have a high probability of being highly sought after proven bulls and do have a place in the market, but our PACE program is still greatly valued.

GENOMICS...ANOTHER WAY TO VIEW IT
Genetic selection is not an exact science. However genomics is providing a new,

FIGURE 2. GENOMIC PEDIGREE



powerful tool to help better predict results. Typically when we think about what traits are inherited from a dam or sire we believe it is all equal. This viewpoint is shown in Figure 1. It displays how an offspring is expected to inherit approximately 50% from each parent, 25% from each grandparent and 12.5% from each great-grandparent. This is true when you consider a large group of animals, but is it true for an individual?

No, its not true for looking at an individual, look at Figure 2. It demonstrates that for a given chromosome an individual can inherit more than what is traditionally expected from a given ancestor. The color illustration clearly shows that the sire and dam did not inherit an equal amount from their parents. Here both the sire and dam received more than 50% from their respective dams. The same is true for their offspring. Figure 2 provides the visual for an animal's genetic map and is useful when estimating the genetic potential of individuals.

GENOMICS...WHAT IT PROVIDES
The fact remains genomics are exciting and the industry is diving into the use of this genetic

selection tool. Genomic evaluations will bring many changes. This includes the following:

- Significant improvement in accuracy over Traditional PA values (35% Traditional PA versus 65% Genomic PTA).
- Younger animals can be used as parents, reducing the generation intervals and enhancing genetic gain.
- Dairy Sire Summaries will continue to be three times a year, but Genomic PTA's will be made available 6-8 times a year for both cows and bulls.
- Reduction of parentage errors because of the ability to better identify heritage.
- Another option for a sexed semen source through use of GeneFORCE sires.

Furthermore, research at the USDA and Genetic Visions will increase the reliabilities of future sire evaluations and further uncover the bovine genetic map, continuing genetic progress at an increasing rate. Remember... **'The Genomics Revolution'** was empowered by Accelerated Genetics' Innovations!

NEW WEBSITES

Accelerated Genetics is excited to introduce a new website. The website now has great features and content to help keep all producers up-to-date on the many and always changing products and services that Accelerated Genetics has to offer.

The new features on the website include a fresh new look and easy navigation to find sire data, farm products, and new technologies. Also producers can view all of Accelerated Genetics' catalogs online and search for sires using the virtual sire guides for both beef and dairy cattle.

Be sure to go to www.accelgen.com and take a look at the new features and information about Accelerated Genetics!

The Genetic Visions website has been updated with a fresh new look and easier navigation! The new website with more photos, information and news articles that will keep all producers up-to-date on the latest in research and technology! Read about the latest trends such as genomics and how genes affect animal health.

Producers are also able to go online and fill out a genetic marker testing application that is available through Genetic Visions for tests such as Freemartin (FM), BLAD, CVM, Coat Color/RF, and many other leading research tests.

Go to www.geneticvisions.net to view how genetic research is helping increase herd's genetic worth all over the world!



PHIL G

Soaring Into The Spotlight



BY: DEVAN FUNK, GENETIC DEVELOPMENT MANAGER

014HO04670 L-L-M-Dairy Phil G-ET entered Accelerated Genetics' active lineup as a PACE graduate in August 2008. He has a unique pedigree, being a Pippen son from a Rudolph dam. He also has a very balanced proof with very few weaknesses and has an extremely high type evaluation with a high foot and leg composite and udder composite to go with it. Phil G should be a very popular service sire because of his overall balanced numbers.

Phil G was acquired from L-L-M Dairy in Ringle, Wis. L-L-M Dairy is comprised of brothers Leon and Lyle Matthiae, and their father Marvin Matthiae. The Matthiae family milks 80 Holsteins. Phil G is named after Leon and Lyle's nephew Phil Golding, who helps out at the dairy.

The acquisition of Phil G started with a visit to L-L-M Dairy in November of 2002. Phil G's dam, L-L-M-Dairy Rudolph Pilgrim was already in her third lactation. Previously L-L-M Dairy had sent bulls to Accelerated Genetics and other A.I. studs, but they were all from different cow families. Pilgrim was not from a high numbered family. Her genetic numbers were earned the hard way. Her first two lactations were solid lactations, 24,610 milk as a two-year-old, and 26,880 milk as a three-year-old. And in her third lactation, she produced 31,720 milk 3.8%

SATISFIED CUSTOMERS:

"We are very happy with our Phil G daughters, they are nice cows and the type of cows you want to have – Trouble-free. They are above average on milk and are average-sized cows."

KOVAL BROS.
Stillwater, N.Y. • 334 Holsteins

"My Phil G daughters are all pretty nice and are well above herd average for milk. They should all finish their first lactation over 30,000 of milk."

KEVIN GILBERTSON
Elk Mound, Wis. • 425 Holsteins

"My Phil G daughter is a very nice cow. She stands tall with a high udder and is easy to work with. Also she is above herd average on production."

DAVID MEYER
Barneveld, Wis. • 105 Holsteins

fat 1,209 fat 3.1% protein 985 protein. It was in her third lactation that her genetic numbers caught my eye.

Honestly, I visited the herd to check out other animals with higher values, but asked about Pilgrim being that she was a Rudolph daughter milking well. Rudolph was a very popular 2nd crop sire at the time. Pilgrim was a very powerful and wide Rudolph daughter and she possessed a beautiful udder. Pilgrim was open at the time and Leon offered to flush the cow to any bull of my choosing and then he would breed her back.

At that time, I was attempting to use Glen-Toctin Pippen-ET *CV as a mating sire. He was a top TPI sire then, but was a CVM carrier and was difficult to get used. Leon was easily convinced that Pippen could work well on the cow and was willing to flush Pilgrim to him. Pilgrim was flushed to Pippen, but only one pregnancy resulted. As luck would have it, the pregnancy resulted in a bull calf, born on October 11, 2003. Sired by a CVM carrier, Phil G had a 50/50 chance of being a carrier himself, which would have nullified the purchase. Again, as luck would have it, Phil G did not inherit the CVM gene.

Phil G arrived at Accelerated Genetics at a young 5 months of age. He was first collected at 11 months of age and was released for sampling at 14 months of age in December of 2004. His first production evaluation was in January of 2008 and he was released into the active lineup after the August evaluations. His current official production evaluation now contains 133 milking daughters in 64 herds. He now has 85 classified daughters.

Phil G daughters resemble his dam much more than his sire Pippen. The daughters are above average for size and frame with above average strength and average dairyness. They have very correct udders, being particularly correct in their fore udder attachments and have extremely shallow udders...all traits that resemble his dam. Phil G daughters also have very correct feet and legs, much more like his sire Pippen.

At +1454 PTAM, PHIL G is not an extreme production sire but is better than average.



014HO04670 Phil G Daughter:
Creekside Phil G 954
Mike Van Vliet, Escalon, Calif.

He is a good fat component improver at +.03% and is +62 PTAF. His protein is more average at -.02% and +38 PTAP. A bright spot is his Somatic Cell Score which currently stands at +2.80, well below average and ranks quite well among our lineup. At +3.7 PL, he is well above average for Productive Life.

Among Pippen sons with production and type evaluations, Phil G is the highest for TPI and Net Merit. Clearly, that is a huge credit to his dam. Since 2005, several other A.I. studs have acquired sons from Phil G's dam. There are sons by Potter, Die-Hard (2), Burt and Marion (2) all still awaiting evaluations, and all good chances for successful A.I. sires.

Pilgrim herself is still milking at L-L-M Dairy, now in her 6th lactation. She was flushed extensively after her fifth calving but the Matthiaes calved her in again last year. In December 2007, she was raised a point to EX-92 and was given her 2nd E at 10 years of age. Her best production record is at 6-11 365 42,280 3.6% 1,534 3.0% 1,287. L-L-M Dairy is currently milking eight daughters of Pilgrim. They are sired by BW Marshall, Sosa, Potter, Durham and Burt. She has several young daughters that have freshened these past several months that are doing quite well. A Die-Hard daughter was recently classified Very Good and sold very well in a recent consignment sale.

The story of 014HO04670 Phil G and his dam is still unveiling. I am quite confident that Phil G's evaluations have not yet peaked and we will be hearing more about his dam, Pilgrim and her progeny in the years to come.



Direct Fed Microbial for Organic Cattle

BY: DAN SCHREINER, PRODUCT SPECIALIST

With ever increasing input costs and a volatile milk price producers are always looking for ways to increase efficiency and improve their bottom line. All of us at Accelerated Genetics understand the challenges producers face and realize that a healthy dairy industry starts with healthy and productive dairies. We are constantly looking for new and improved products that can improve productivity on your operation. We also understand that for those of you out there that chose to farm organically there are additional challenges trying to find products that can be used on your operation.

The newest product offering we have is a product called Essential Solutions-Direct Fed Microbial (DFM), for organically fed dairy cattle. One of the single biggest factors in having a healthy productive herd is to have a balanced ration not only for the

cows, but for the millions of fungi, bacteria, and yeast that are living inside the cow.

To maintain an efficient and healthy animal each type of microbe has to be present at the proper ratio in order for itself to survive and give the animal the nutrients it needs. Any variation, such as a pH change caused by overfeeding grain or a mycotoxin from poorly stored feed, can destroy specific microbes and throw the balance off which causes problems both in the short term (production) and long term (reproduction).

We have years of experience with DFM's with our Tri-Mic line of products and have used that knowledge and experience when we designed our latest DFM. Essential Solutions DFM is a combination of ruminant specific microorganisms that promotes proper rumen micro flora function and growth for a more stable and effective digestive tract.

Use of DFMs in a cow's diet are very effective. With an improved rumen environment it can lead to higher production, allow for better feed efficiency, and reduce the risk of pathogenic microbes becoming established in the digestive system. Together this improves overall animal health. In addition, stable digestive tracts are better equipped to absorb required nutrients needed for crucial biological functions such as reproduction.

Sometimes it is difficult if not impossible to maintain the correct balance of rumen microbes through diet alone. When this happens, there are many products or tools out there that help achieve the desired balance. Traditionally we have tried to achieve this balance by fighting the microbes that we don't want. Ionophores such as monensin, are used to give preferential treatment to specific rumen microbes by suppressing growth of less desired rumen microbes.

Antibiotics are used in a similar way, but they fight foreign microbes that invade the digestive tract, but they can also attack the beneficial microbes at the same time. DFM's, on the other hand, act to improve rumen function by adding beneficial bacteria to the rumen to outcompete less desirable microbes. By doing this, it allows the rumen's own defense system to balance itself to improve efficiency.

There are many advantages to the Essential Solutions Direct Fed Microbial product, they include: product stability, dry formulation, special packaging ensuring the product stability for months, guaranteed viable microbe count and it is USDA certified organic. Further the on-farm product trial showed improved production when Essential Solutions DFM was fed.

Essential Solutions DFM is easy to use as it can either be used as a top-dress once a day or added into a TMR ration.



JANUARY SIRE SUMMARY DIARY

MANY NEW SIRES GRADUATE FROM PACE PROGRAM

BY: DEVAN FUNK, GENETIC DEVELOPMENT MANAGER

The January 2009 Genetic Sire Evaluations mark the first time that genomic data is included. Accelerated Genetics invested heavily to ensure that all active Holstein and Jersey sires were genotyped. Unfortunately, not all sires have their genomic information utilized, even though a particular sire had been genotyped. The current daughter information that was available for the January run was unable to be combined with the genomic data in time for the release. Because of this, sires could have one of three different types of evaluations:

- a) Genomic evaluation combining genotype data with August daughter evaluations.
- b) Traditional U.S. evaluation using current daughter information and no genotype data.
- c) MACE evaluation using current U.S. daughter evaluations and other country's evaluations and no genotype data.

The evaluation with the highest Reliability is the one deemed as a sire's official evaluation. A sire's information can be a combination of both Genomic and Traditional PTAs for either production and health data or type data. His Reliability for yield traits determines which evaluation is official for the production and health data. A sire's Reliability for type determines which evaluation is official for PTAT data, which includes all linear traits and composites. The folks at AIPL assure us that by April, all genotyped sires will have official Genomic evaluations.

Even with the complex sire run, Accelerated Genetics has many highlights in all the new PACE graduates and their ability to dominate the lineup. Many of the new graduates are breed leading sires for Net Merit, Type, Udder Composite and many if not, all major traits of interest. Dominating the NMS list are five new Oman sons. They provide high production with strong components, terrific health traits, solid functional type and unbelievable calving traits.

014HO04929 **Man-O-Man** is Accelerated Genetics' highest ranked Oman son for NMS and TPI. His dam is a VG-89 Aaron daughter. Man-O-Man has the total package of production, type, health, and calving ease. All of his evaluations do include genomic information. Man-O-Man is alive, but unfortunately supply is limited.

Oman son 014HO04876 **Paxton** is an exceptional health trait sire being +2.9 DPR, +2.69 SCS and +5.9 PL. His dam is an EX-93-3E Rudolph daughter. His linear shows his daughters to be tall and strong with sloped rumps and well above average on feet and legs.

014HO04956 **Dotson** is extremely high in NMS and production traits. This Oman son comes from and EX-92-2E Durham dam and his grandam is an EX-91 Storm daughter. Dotson daughters are tall, strong, wide cows with dairyness. They also have extremely good feet with wide udders and

correct teat placement. At +2394 PTAM, +74 PTAF and +72 PTAP, those producers concerned with keeping the bulk tank full will want to check out Dotson.

014HO04916 **Jake** is another Oman son. Jake's dam is an EX-90 BW Marshall daughter. At +96 PTAF, Jake is Accelerated Genetics' highest sire for fat. He is a high type Oman son at +2.00 PTAT, +1.93 UDC and +2.44 FLC. Jake daughters are tall and strong with exceptional feet and legs. They have really well attached udders. Also he is a good choice for heifers as Jake is 6% on SCE. 014HO04924 **Kramer** is our final graduate for our Oman sons. His dam is a VG-86 Hershel daughter. At +3.54 FLC Kramer is one of Accelerated Genetics' best at improving feet and legs. He is another great choice for heifers having a SCE of 6%.

Palmcrest **Monument-ET**, 014HO04784, is the highest new release graduate for type. At +3.41 PTAT, +3.26 UDC and +3.74 FLC, he is certainly a breed leader in all type categories. Sired by Morty and from a VG-89 Durham dam, Monument makes very correct daughters. In general, his daughters are very tall, strong with deep rib, breed leading feet and legs and flawless udders, especially in their fore attachment and rear udders.

Another incredible type improver is newly released 014HO04878 **Kalahari**. He is a Finley son from an EX-91-2E Rubytom daughter. At +2.87 PTAT and +3.24 UDC, Kalahari should



014HO04876 Paxton Daughter: Donamara Paxton Berry GP-80 Bears Grass Dairy, Inc., Augusta, Wis.



014HO04784 Monument Daughter: Ocooch Monument Dillah VG-85 Ocooch Dairy, Hillsboro, Wis.

surely grab the attention of most breeders looking for improved type and udders. He also improves fat nicely at +56 PTAF. Another high type Finley son that is new for January is 014HO04851 **Clyde**. Clyde excels in making big, strong, wide-rumped cows with exceptional feet and legs. 014HO04953 **Rod** is another high type sire coming in at +3.31 PTAT. His pedigree shows him to be a Titanic x BW Marshall x Patron x Roebuck. His daughters have udders with deep creases, smooth fore udders and extremely high, wide rear udders. He is also a solid production sire at +1361 PTAM and +53 PTAF.

A pair of fine Champion sons strengthens this outstanding group of new PACE graduates. First is 014HO04766 **Champ**. At +2.31 PTAT and +2.22 UDC, he delivers outstanding type with solid production numbers coming in at +1838 PTAM. His daughters are tall, angular with sloped rumps and terrific udders. In fact, Champ is better than +1.50 on all udder linear traits. The second Champion son is 014HO04816 **Stellar**, a superb production sire at +2232 PTAM. Stellar's pedigree spells milk. His sire stack includes Champion x BW Marshall x Aaron. Both dam and grandam are Very Good with loads of production. Stellar daughters are very tall, extremely deep in their rib with very angular frames, sloped rumps with deep udder clefts and close teat placement. He also is 6% for SCE.

A calving ease and health trait specialist can be found in 014HO04542 **Major**. At +461 NMS, his daughters are sure to be the profitable kind. His daughters are medium-sized dairy cows with shapely udders. Much is the same with 014HO04883 **Kersage**, a calving ease specialist with +3.1 PL and +419 NMS. Kersage has a flawless linear pattern.

New from our Alliance partners is 210HO00107 **Fibrax**. He is sired by the Italian Patron son, Step, and his dam is a Tugalo daughter. Look to Fibrax for improved components, solid feet and legs and shallow, well-attached udders. For the show ring kind, look to 202HO00258 **Denton**. Extremely tall and deep ribbed daughters are the trademark for Denton. He also boasts a +3.71 PTAT and a +3.27 UDC.

Breeders of Red and White Holsteins have two new sires to choose from. 014HO04625 **Topeka-P-Red** is a Polled Red and White Paradox son that is +1365 PTAM, +3.7 PL, 8% SCE and +1.53 UDC. A new Red Carrier sire is 199HO00112 **Rubentot**. He

comes from Italy. He is sired by B&W sire Merchant and from an Excellent Rubens daughter. He is +1.55 UDC and +2.30 FLC.

In the Jersey evaluations, two new sires lead our NMS rankings. 014JE00472 **Alexander** is our highest Jersey sire for NMS at +569. Alexander is sired by the Danish bull, Artist. His dam is a VG-88% Bold and his grandam is an EX-93% Berretta, both with over 1300 F. At +83 PTAF, Alexander stands tall among Jersey bulls for improved fat. He is among the top ten for fat. He has a very good Reliability for a new sire at 77%R. And his proof does not contain genotype data yet, which will improve his reliability. Alexander's JPI is +270, which will rank him 4th or higher among all active Jerseys.

Also new in Jerseys is 014JE00473 **Louie**. He is sired by the another Danish sire Impuls and is from an EX-91% Khan. At +70 PTAF, Louie excels in components and is among the top active sires for JPI at +228, good for top 20 in the breed.

New to the marketing lineup, is the addition of 17 **GeneFORCE** bulls. These are younger

bulls without milking progeny but have a genomic evaluation. In general, most of these sires have completed progeny test and would normally be awaiting official proofs. However, now with the genotyping technology, these sires can have 70% R evaluations for nearly all traits. Included are sons by Shottle, Goldwyn, Potter, Oman, Marion, Die-Hard, Bolton, Mac, Boliver, Buckeye and Allegro.

One last highlight is 014HO03831 **Marion**. Now with over 2600 milking offspring and over 600 classified daughters, Marion's proof has never looked better. This 99% R sire is +2809 PTAM, +410 NMS and +1.83 PTAT. He is far and away the highest 99% R bull for milk production. At 8 years of age, Marion is still producing semen, but he's not getting any younger. Take advantage of this high reliable, proven milk source while you can, you're milk check will grow by leaps and bounds in a few years.

April evaluations are not far away. Genotype information and current genomic evaluations should be included for all sires. We look forward to even higher reliable sires with all updated pieces of information utilized.

NEW FEATURES ADDED TO DAIRY SIRE GUIDE

BY: JANET KELLER, VICE PRESIDENT OF ADVERTISING, COMMUNICATIONS AND PUBLIC RELATIONS

Accelerated Genetics is very excited to unveil the new January Dairy Sire Guide. This new issue is brimming with information to assist you in selecting sires for your dairy herd. In the past the Accelerated Genetics dairy sire guides have provided you with a wide variety of top-shelf sires to improve your herd. We continue that commitment to provide you the best sires for your herd goals...but now provide greater information for faster genetic progress.

For the first time the United States genetics industry is including genomic evaluations as official dairy sire summary data.

In addition to more reliable information on our proven sire lineup, we are unveiling GeneFORCE sires.

GeneFORCE

This is a genomically superior group of young sires. This group of high Net Merit and high TPI sires give producers the chance to invest in these emerging young sires earlier with greater confidence. And, due to the stringent sire selection philosophy for Accelerated Genetics' PACE young sire program, these GeneFORCE sires have deep pedigrees from leading cow families.

The GeneFORCE sires can be found together in a group within the January Dairy Sire Guide. Accelerated Genetics GeneFORCE sires...a great investment to increase the genetic progress in your herd.



IMPROVING FERTILITY WITH DOUBLE-OVSYNCH



BY: HUMBERTO RIVERA, REPRODUCTIVE SPECIALIST

Recent studies conducted at Dr. Wiltbank's lab at the University of Wisconsin (Souza et al., 2008) have shown promising fertility improvements by implementing a new pre-synchronization strategy before the Ovsynch program in lactating dairy cows.

In general Ovsynch has been a tremendous tool for improving service rate in lactating dairy cows with similar fertility to cows bred after heat detection. However, Ovsynch has some limitations when used in cows that are either not cycling or in cows that are not at the ideal phase of the estrous cycle at the onset of the program. Hence, several researchers found the answer by developing a pre-synchronization program based on two injections of prostaglandin (PGF_{2α}) used 14 days apart with the second injection given 12-14 days before the first GnRH of Ovsynch (traditional presynch program) to ensure that most of the cows were at the right stage of the estrous at that time (day 5th to 10th of the cycle).

The majority of these trials observed improvements of about 5 to 10% points in

conception rate for Presynch compared to Ovsynch. Unfortunately, presynch cannot induce cyclicity in anovular cows (there is no CL!) Therefore, Presynch does not seem to be effective to pre-synchronize anovular cows, which is estimated to be as high as 20-30% of lactating dairy cows under normal conditions around 60 Days In Milk (DIM).

Since there is no synchronization of the follicular wave emergence, there is a high dispersion of heats and ovulations following a PGF_{2α} treatment, which produce follicles with different sizes at the onset of Ovsynch protocol, compromising the ovulatory response to the first GnRH injection.

Double-Ovsynch uses an Ovsynch protocol during the pre-synchronization period instead of two PGF₂ injections. The figure below (Fig. 1) shows the experimental design used in this trial (Souza et al., 2008) comparing the two pre-synchronization strategies.

The results of this trial showed greater conception rate for cows receiving first

insemination after Double-Ovsynch (49.7%, n=157) compared to traditional presynch (41.7%, n=180). There are several more studies completed from Dr. Wiltbank's lab that consistently confirm the fertility advantage of this new pre-synchronization program which include thousands of inseminations.

You should start your Double-Ovsynch injections later in lactation (about 50 DIM) to perform timed-A.I. (TAI) around 77 DIM, since the duration of this protocol is shorter compared to traditional Presynch (27 days compared to 37 day).

Although Double-Ovsynch seems to be a very consistent protocol for lactating cows, farmers must make sure that the correct hormonal treatments are given at the correct times, to correct cows, with the correct doses. A suggested weekly schedule is presented on the next page (Fig. 2). This schedule should be precisely followed in order to guarantee compliance while using Double-Ovsynch. Notice that Presynch injections are highlighted in red, and timed AI-Ovsynch treatments are highlighted in blue. In this calendar, TAI is scheduled to be performed on Thursdays starting at 8:00 a.m.

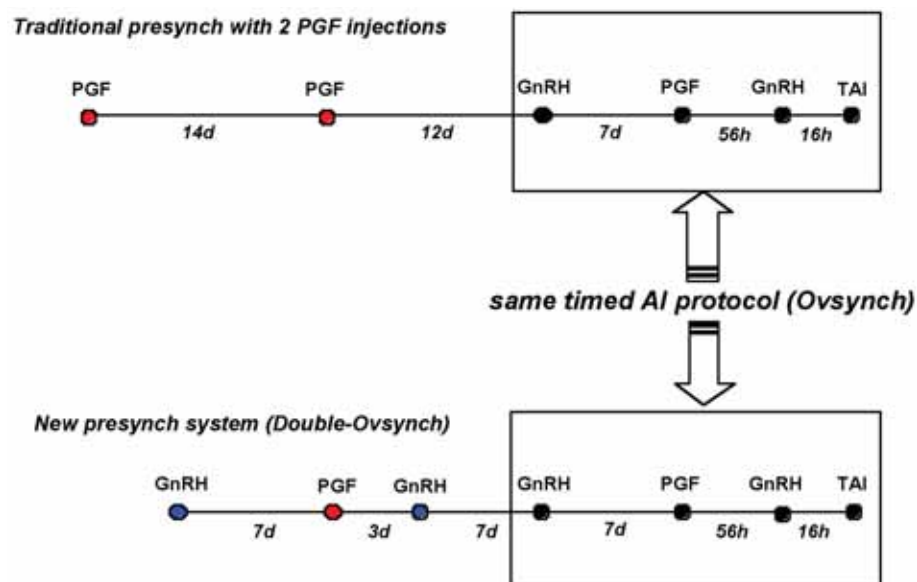
Despite the fact of being more labor demanding compared to traditional Presynch (one additional hormonal treatment), Double-Ovsynch has a shorter duration and has demonstrated to produce more pregnancies. With the right implementation, Double-Ovsynch can significantly improve reproductive efficiency on your farm. Many Accelerated Genetics customers are already taking advantage of higher fertility with Double-Ovsynch!

References:

Souza AH; Ayres H; Ferreira R; Wiltbank M. A new presynchronization system (Double-Ovsynch) increases fertility at first postpartum timed AI in lactating dairy cows. *Theriogenology*, Vol. 70, Issue 2, Pages 208 – 215.

FIGURE 1. EXPERIMENTAL DESIGN FOR COMPARING TWO PRE-SYNCHRONIZATION STRATEGIES

(ADAPTED FROM SOUZA ET AL., 2008).



NAAB NAMES COWAN 2008 DISTINGUISHED SERVICE AWARD RECIPIENT

This fall Dr. Mike Cowan was honored with the 2008 NAAB Distinguished Service Award for his dedication and contributions to the bovine industry. Mike's 30-year A.I. career has included: Technical Manager, Director of Production and Vice President of Research for Accelerated Genetics. Currently he is also General Manager of Genetic Visions, Inc., Accelerated Genetics' wholly-owned subsidiary corporation that commercially tests DNA to identify various bovine traits of economic importance.

A native of Missouri, Mike, earned a Bachelor of Science Degree in Animal Husbandry from the University of Missouri-Columbia, followed by a Master of Science Degree in Animal Science from the University of Nebraska. After working several years in the cooperative's Production Division and dealing with bull housing, herd health and semen processing challenges, Mike decided to broaden his horizons by embarking on a Ph.D. program at the University of Wisconsin while continuing his employment at Accelerated Genetics. He was awarded his Ph.D. in Dairy Science in 1990. His doctoral research was the first to use DNA techniques to detect differences in genetic merit for milk and milk component yields at the chromosome level. This work resulted in a U.S. patent and a commercial test called Chro-Mo-Probe™.

Dr. Cowan has truly been a pioneer in the area of genetic marker technology. He

was also the first to apply marker-assisted selection to a commercial A.I. progeny program (at Accelerated Genetics) and illustrate the practical use of this tool to complement traditional selection schemes by identifying genetic differences between closely related individuals prior to progeny test data thus providing real economic and cost savings advantages to the industry.

Mike has certainly been ahead of his time. The concept that direct detection of genetic potential at the DNA level can increase the accuracy of predicting an animal's genetic merit prior to young sire testing will be realized on a large scale basis with completion of the recent collaborative Bovine SNP project and calculation of genomic PTAs for broad industry application.

Dr. Cowan has been awarded two Small Business Innovation Research grants from the U.S. government based on the valuable and unique nature of his research efforts. This, along with the confidence placed in his efforts by the A.I. industry and breed associations, shows strong support of the originality, vision, and innovative nature of his work.

Mike regularly works with both the industry and university sectors to assure that methodology meets critical criteria. In addition, he has collaborated on publications with various university and government scientists.



NAAB Chairman, Al Kuck, presents the NAAB Distinguished Service Award to Dr. Mike Cowan, General Manager for Genetic Visions, Inc. and Vice President of Research for Accelerated Genetics.

His current research efforts center on using DNA technology to detect genetic diversity for traits of economic importance, develop methods to analyze DNA data and translate genetic marker information into useful selection criteria. Examples include: impact of sire identification error rates on genetic evaluations, genes affecting gestation length and sperm cell production.

Mike is respected not only by his co-workers at Accelerated Genetics, but in the industry as a whole. For several years he has served on a variety of committees for the NAAB including six years on the NAAB Board of Directors, with two years as Vice Chairman. His leadership role on committees has contributed significantly to the A.I. industry.

Dr. Cowan is often consulted for his views on technology questions and challenges. His respect in this area is of world-wide scope. His background and interest in semen quality, herd health and reproduction complements his research efforts with genetic markers and production traits.

In summary, Dr. Cowan's research has increased the accuracy of the selection programs by identifying inferior or superior genetic potential prior to progeny or performance testing, thus, providing a means of discriminating among animals that are full siblings or have nearly identical pedigrees. Overall, this discovery increases the likelihood of a young bull successfully completing progeny testing.

FIGURE 2. PROPOSED WEEKLY SCHEDULE OF TREATMENTS FOR DOUBLE-OVSYNCH.

SA	SU	MO	TU	WE	TH	FR
						GnRH1 - Presynch (AM)
						PGF - Presynch (AM)
		GnRH2 - Presynch (AM)				
		GnRH1 - Ovsynch (8:00 AM)				
		PGF - Ovsynch (8:00 AM)		GnRH2 - Ovsynch (4:00 PM)	TAI (8:00 AM)	

Important: Each group of cohort cows should receive different color codes (with the use of chalks) to minimize mistaken or missed hormonal treatments throughout the protocol.

ACC-SS™ SEXED SEMEN LAB Is Now In Production



Accelerated Genetics is pleased to announce that Sexing Technologies (ST), Navasota, Texas, has set up an operational semen-sexing lab at the cooperative's Production Facility in Westby, Wis. ACC-SS™ sexed semen will be available on many of Accelerated Genetics' highly proven sires and new genomic high-value young sires to customers around the world.

ACC-SS sexed semen is processed through ST's technique which utilizes flow cytometry to sort the female chromosome-bearing sperm cells from the male chromosome-bearing sperm. The ST sexed semen product allows you to predict the gender of your calves within 90 percent accuracy (plus or minus 5%). This allows producers to increase herd size, avoid the costs of replacement animals and reduce the risk of disease when bringing in animals from other herds.

Research has shown sexed semen conception results are expected to range from 70 to 80 percent of levels as compared to non-sexed semen. ACC-SS is not recommended

for use in lactating cows. For best results, only inseminate heifers that are in good standing heat. ACC-SS is not recommended for use with synchronization programs. Straw thaw and handling procedures for sexed semen are the same as non-sexed semen.

"We are excited about this new partnership with Sexing Technologies and to be able to provide our customers with an additional type of semen technology to help increase their herd's heifer percentage. ACC-SS is another semen tool available to Accelerated Genetics' customers," says Joel Groskreutz, Accelerated Genetics President and CEO.

Accelerated Genetics representatives can help producers develop an individual breeding strategy for their operations utilizing ACC-SS™ sexed semen or other Accelerated Genetics products or services.

Artificial insemination straws of the customer's sexed semen are for single use insemination only and not for invitro-fertilization or embryo transfer. Not for resale. Customer sexed semen is produced by Sexing Technologies using the proprietary technology of XY, Inc. U.S. Patent Nos. 5,135,759; 6,372,422; 7,094,527; 7,208,265. Patents Pending. XY® is a trademark of XY, Inc.

ACC-SS™ should only be used for a single-use artificial insemination of bovine heifers that are not part of a timed A.I. or synchronization program or being flushed for embryo transfer. For optimum results, use only by those highly experienced in A.I. technique. ACC-SS is subject to availability. Accelerated Genetics, or its agents, will not make any guarantee or warranty on conception rates and/or gender ratio.



RECOMMENDATIONS FOR A SUCCESSFUL INSEMINATION

ACC-SS sexed semen is only available in 1/4-cc straws and must be used with an insemination gun designed to accommodate the smaller straws.

Because of the smaller straw size, sexed semen straws are more sensitive to cold shock and errors in semen handling.

To help achieve the highest success rates possible with ACC-SS please consider these guidelines:

- Use only in healthy, well-grown, virgin heifers that have been observed in standing heat.
- Inseminate 8-12 hours after the first detected mounting.
- Use only an experienced A.I. technician and never split straws.
- Always use tweezers, never fingers, to handle straws.
- Remove the selected straw from the canister as quickly as possible. Minimize the container's time above the liquid nitrogen.
- Return the canister to the liquid nitrogen promptly, keeping it out no more than five (5) seconds.
- Ensure that semen is stored at the proper temperature.
- Thaw straws in 95°F water for at least 45 seconds.
- Pre-warm the A.I. gun and sheath to avoid cold shock, and thoroughly dry the straw before inserting it into the gun.
- Deposit semen in the uterine body just past the opening of the cervix, as done with conventional semen.

ACCELERATED GENETICS' JUDGING CONTEST

MINNESOTA STUDENTS TAKE TOP HONORS

BY: KARI STANEK, COMMUNICATIONS & PUBLIC RELATIONS COORDINATOR

The team from the University of Minnesota took home the top honors and the coveted Brown Swiss Canton III Traveling Trophy on September 14, 2008 after winning the 15th Annual Accelerated Genetics Intercollegiate Dairy Cattle Judging Contest. The University of Minnesota team coached by Les Hansen and Tara Meyer included team members: Brandon Thesing, Mike Donnelly, Stacy Sexton and Jessica Achen.

There was much excitement during this year's awards banquet as the placings and cuts were revealed along with the award winner's announced for each breed, oral reasons and then overall. Placing Second Overall in the contest was the University of Wisconsin-River Falls, coached by Steve Kelm and Drew Johnson. Team members: Lezli Weis, Mary Johnson, Londa Johnson and Sandra Kirchner. And coming in Third Overall was Cal-Poly State University, coached by Stand Henderson. Team members: Nisa Gallichio, Ashly Garcia, Kelsey Cheda and Katherine Rector.

In the Overall Individual competition the University of Minnesota took home the top spot as well with student Brandon Thesing. The other top individuals included. Mary Johnson, second, University of Wisconsin-River Falls; Katherine Rector, third, Cal-Poly State University; Jamie Hermann, fourth, Kansas State University; Ben Sarbacher, fifth, University of Wisconsin-Madison; Cole Rupprecht, sixth, North Dakota State University; Kelly Sime, seventh, University of Wisconsin-Madison; Londa Johnson,



The winning team was the University of Minnesota. Back row: Les Hansen, coach, Brandon Thesing, Mike Donnelly, Tara Meyer, coach, and Dr. Ole Meland, Vice President of Genetics at Accelerated Genetics. Front row: Stacy Sexton and Jessica Achen.

eight, University of Wisconsin-River Falls; Mike Donnelly, ninth, University of Minnesota; and Adam Koppes, tenth, Iowa State University.

The University of Minnesota team won the High Team in Oral Reasons with second place going to the University of Wisconsin River Falls. Third place went to the University of Wisconsin-Madison team, coached by Ted Halbach and Dave Dickson. Team members: Kelly Sime, Adam Geiger, Dana Mohn and Jade Bucholz. The Top Three Individuals in Oral Reasons take home a special scholarship from the James Crowley Fund. Placing First in Oral Reasons was Brandon Thesing, University of Minnesota; Second was awarded to Mary Johnson, University of Wisconsin-River Falls; and Third was awarded to Mike Donnelly, University of Minnesota.

Twenty-two teams participated in the contest this year from all across the United States. The contest is held at the Vernon County Fairgrounds in Viroqua, Wisconsin. During the contest each participant placed ten classes and gave five sets of oral reasons. They judged at least one class of each of the following breeds: Brown Swiss, Guernsey, Holstein, Jersey and Milking Shorthorn. We wish to thank all of the local cattle exhibitors for supplying high-quality cattle.

Another portion of the Accelerated Genetics Intercollegiate Dairy Cattle Judging Contest was the leadsperson showmanship contest. Every year, the youth of Vernon County assist

the contest by leading the cattle—this year over 30 youth participated. Placing first in the Junior Division was Ryan Gutenberger, second place was Logan Gutenberger, and third place was Jacob Leum. In the senior division, Carrie Jo Leum placed first, Jessica Parker place second, and Derek Petersheim was third. The Showmanship Spirit Award was presented to JJ McClelland. And the overall showmanship winner received a special award in memory of David Larson, who worked very closely with the Vernon County youth and the judging contest. The recipient of the David Larson Memorial Showmanship Award went to Drew Hendrickson.

This contest would not be possible without the tremendous support of the numerous contest and award sponsors. They included: American Guernsey Association, American Jersey Cattle Association, American Milking Shorthorn Society, Ayrshire Breeders Association, Brown Swiss Cattle Breeders Association, Fort Dodge Animal Health, Connie Schmelzer, American Printing/Schumann Printers, Inc., Holstein Association USA, Organic Valley, James W. Crowley Fund, Merial Ltd., Milk Products, Inc., Pioneer Hi-Bred International, Sci-Tech Premixes, Swiss Valley Farms, Co., The Baraboo National Bank, The State Bank of Viroqua, Vernon County Agricultural Society, Vernon County Junior and Open Dairy Exhibitors, Village Market, the Wisconsin Brown Swiss Canton III and Accelerated Genetics.

Genetic Trends - January 2009

REPROCONNECTIONS NEWSLETTER

Accelerated Genetics has created a new bimonthly newsletter called REPROconnections and is designed for producers interested in the latest reproductive specific information. If you haven't received this newsletter yet, but would like to, please send an email to: reproconnections@accelgen.com or check out www.accelgen.com for past REPROconnections issues.

COLD WEATHER CALF MANAGEMENT

ARE YOUR CALVES PREPARED?

BY: DAN SCHREINER, PRODUCT SPECIALIST

Now that the cold weather season has arrived, there are many areas of calf management that need to be evaluated or adjusted to the changing climate. Challenges to raising calves during cold weather that producers need to prepare for center around nutrition, comfort and management.

We all know that cows do well in colder temperatures, but calves are much more sensitive to changes in weather. So the question is 'what is cold to a calf?' We all have a temperature range in which we feel comfortable and are the most productive in our work. For calves we call this the Thermoneutral Zone (TNZ) – the temperature range in which the calf does not utilize additional energy to maintain its body temperature.

There are both lower and upper limits to the TNZ. The TNZ will vary based on the age and size of the calf, but generally we consider 50°F to 80°F as the TNZ for a newborn calf. By one month of age the lower critical temperature will have fallen to 30°F.

Yet keep in mind there are variables which can affect this lower critical temperature, such as wind, moisture, housing, bedding and hair coat condition. A sunny and calm day at 50°F feels much better to us and to a calf than a cloudy, rainy and windy day at 50°F. When implementing your cold weather care program for calves—keep an eye on the thermometer but also on these other conditions.

The growth rate of calves is limited by the amount of protein and energy we feed. The calf requires protein for maintaining and developing frame, lean tissue and organs. Also, the calf needs the fuel to drive this growth which is the energy component of the diet.

The energy available to the calf must first satisfy the calf's needs for maintaining its bodily functions and what's left over promotes growth. Table 1 (on page 15) illustrates this for a 100 pound calf exposed to a 70°F temperature, fed a 20 percent protein and 20 percent fat milk replacer.



Photo by: Karl Stanek

The Thermal-Neutral Zone (TNZ) is a temperature range where animals are neither too hot or too cold. The range for calves is from a low of about 50°F to a high of 80°F (10°-25°C). When the temperature drops below 50°F calves will start to use more energy to maintain their body temperature. During these cold weather times, extra energy and/or outerwear (like an AccelCoat) is necessary to keep your calf's growth on track.

As you can see, the calf gains weight at all feeding rates. The more protein and energy the calf gets the more opportunity the calf has to grow.

When a calf is exposed to temperatures below its lower critical temperature, it will utilize more energy from the diet to maintain its internal body temperature resulting in less energy for growth. For example, a 100 pound calf at 70°F will require about 1.75 Mcal/day just to maintain its body function. Additional energy in the diet is available for growth.

These requirements change significantly as temperatures fall and as the calf grows. The same 100 pound calf exposed to 10°F temperature requires more than twice the energy for maintenance than it did at 70°F. How does this added requirement of energy for maintenance affect calf growth?

Let's look again at the example in Table 1 of the 100 pound calf being fed the 20 percent protein and 20 percent fat milk replacer, but this time it is exposed to a temperature of 10°F. In this case the calf will be in a weight loss situation until fed 1.75 pounds of milk replacer daily.

Don't calves get added energy from calf starter? Yes, starter can provide added energy to the diet and the fermentation of the grain in the rumen generates heat. However calves under three weeks of age generally are just starting to ruminate and are not consuming enough starter, so they are primarily getting the energy component from the milk diet. In severe cold weather animals that are not given enough energy through the milk replacer will try to over-consume starter and cause additional problems, such as a coccidiosis outbreak, which could lead to death. The bottom line is that young calves require more energy during cold weather in order to gain weight and develop their immune system. Strategies for increasing energy intakes during cold weather include:

- Feed a 20% fat milk replacer.
- Make sure the milk replacer solution is fed at body temperature.
- Increase the feeding rate of powder by 25% to 50% but do not exceed 20% solids in the mixture.
- Add a fat supplement to the liquid feed.
- Remember to provide fresh, free choice water to improve starter intakes and promote rumen development.

TABLE 1. ESTIMATED AVERAGE DAILY GAIN

Pounds per day for a 100 pound calf fed a 20-20 milk replacer.

TEMPERATURE	POUNDS OF MILK REPLACER FED			
	1.00	1.25	1.50	1.75
70°F	0.39	0.72	0.91	1.11
10°F	WEIGHT LOSS	WEIGHT LOSS	WEIGHT LOSS	0.48

If you are suffering calf loses, a quick DIY postmortem can help assess cause of death. The fat surrounding the kidneys is the last to be mobilized. If the kidneys contain no fat then the calf may have died from starvation (for more information go to www.milkproductsinc.com and check out the Frontline article T001.55 ‘Turn That Dead Calf Into An Asset’). During cold weather body condition on calves may be harder to determine since the hair coat tends to stand up and calves appear like fuzz balls. Regularly feeling the calf around the rib area is a good way to determine if calves are putting on weight.

Also, during cold weather we need to take extra precautions to make sure the calf is comfortable. Newborn calves

should be dried off and removed from the maternity pen quickly and placed in a warming box. Bedding should be clean, dry and abundant allowing the calf to ‘nest’ itself. Also, if the hair coat becomes matted due to soiled bedding, it loses much of its insulating ability causing calves to become chilled.

Calf coats can provide another layer of protection between the calf’s natural hair coat and the elements. When choosing an appropriate covering, make sure it is designed to fit the growing calf, repels water and provides a good insulating effect for the calf. For biosecurity reasons, coats should be washed between calves and durable enough to withstand repeated washing.

Hutches should be faced to take advantage of available sunlight, minimize drafts, but to promote proper ventilation and drainage. Watch the calves, they will tell you when they aren’t comfortable. If calves tend to be standing outside of the bedding area – they are usually telling us that the bedding environment is uncomfortable.

As you are adding extra clothing layers as the weather gets colder remember that your herds future is also being affected by the same climate. Making a few basic changes to your calf management can allow your calf program to be as successful as possible and allow your calves to grow to their genetic potential.

ACCELERATE YOUR COLLEGE EDUCATION

Youth are the foundation and next generation of agriculture. Accelerated Genetics is excited to present these scholarships to it’s customers families to ensure agriculture a bright future!

YOUTH SCHOLARSHIP:

Accelerated Genetics awards four - \$500 scholarships to high school seniors planning to major in agriculture at a short course, vocational technical college or a four-year university.

Any high school senior who has participated in FFA, 4-H, any of the various breed organizations or any other agricultural organizations is eligible to apply.

COLLEGIATE SCHOLARSHIP:

Two - \$1,000 scholarships are awarded to students currently enrolled in a short course, vocational technical college or a four-year university degree program.

Supported by Accelerated Genetics, the collegiate program is available to individuals who are currently in their freshman, sophomore, or junior year and are majoring in any agricultural field.

HOW TO APPLY:

To obtain a scholarship application, download it and/or fill it out online from the Accelerated Genetics Web site at www.accelgen.com, call 1.800.451.9275 or email Kari Stanek kstanek@accelgen.com.

Applicants or their parents must be currently active customers of Accelerated Genetics.

The Application Deadline for both types of scholarships is:

FEBRUARY 15, 2009!



In cold weather, energy can be a limiting factor to growth leaving calves susceptible to sickness. In addition to feeding a high-quality milk replacer to pre-weaned calves, adding an energy supplement that contains 60% fat and 7% protein with added vitamins and minerals can help prevent problems during cold weather stress.

DRIVER

IN THE POLL POSITION



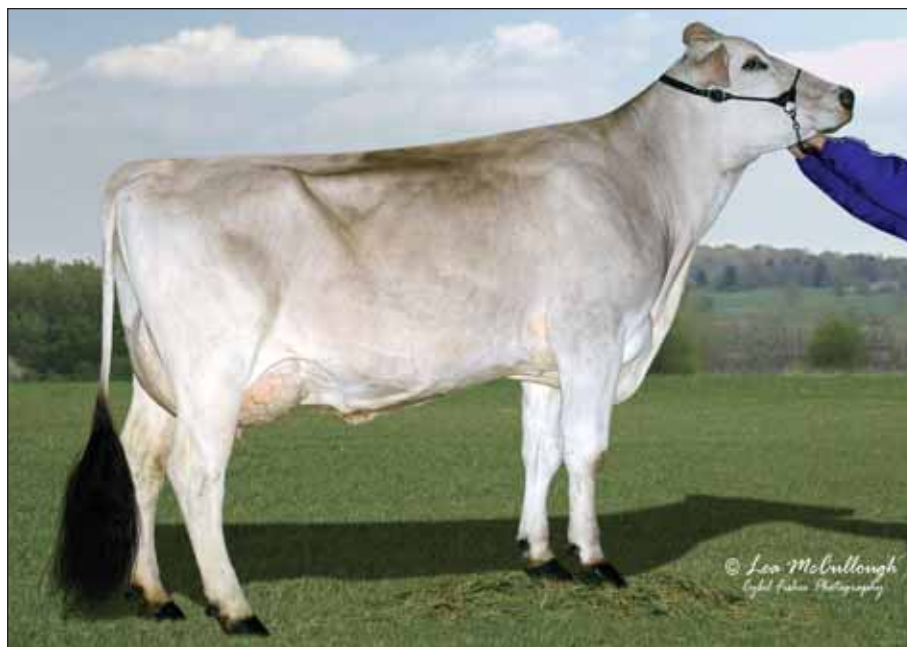
BY: DAVE ERF, DAIRY SIRE ANALYST

The August 2008 dairy sire summary brought a new shining star to the Brown Swiss breed. 014BS00314 Driver graduated from the PACE program as the number three bull of the breed for total performance. His high components, different pedigree, outstanding udder, as well as foot and leg traits make him an exciting addition to Accelerated Genetics' lineup.

DRIVER'S ROOTS

Driver came to Accelerated Genetics from Hilltop Acres Farm in Calmar, Iowa. The Mashek family at Hilltop Acres has a long history of breeding outstanding Brown Swiss. They have a very aggressive flushing program which has resulted in much genetic progress and many bulls in A.I. for their farm. Dennis and Barb Mashek along with their children have had success with proven bulls at Accelerated Genetics prior to Driver. They were the breeders of 014BS00269 Dominate who at one time was the total performance leader of the Brown Swiss breed.

The sire of Driver is the German bull Hussli. Hussli is a high protein outcross



014BS00314 Driver Daughter:
Curvecrest Driver Ratzie VG-87
Robert Eberhard, Glencoe, Minn.

bull to most of the United States' Brown Swiss population. He has a high reliable proof and sires outstanding frames with much power and width.

Because of Hussli's outcross qualities, Driver has a very low inbreeding coefficient of 3.9%, which makes him the only bull in the top thirty active sires with a level of less than 4.0%.



014BS00314 Driver Daughter:
Pimms-View Masque VG-87 EX-90-MS
Pimms View Farm, Conewango Valley, N.Y.

The cow family behind Driver is the same 'D' family that produced Dominate. Driver's dam is a Very Good, 87-point President daughter with an Excellent udder, that made an exceptional first lactation record. This cow is still in the Hilltop Acres herd and will continue to have an impact on their breeding program. The next dam is an Excellent Gordon who was an extremely powerful cow that made some high production records. The third dam was a Credit daughter that had many sons in A.I. The fourth dam was Jetway Dixi, the dam of Dominate.

DRIVER'S DAUGHTERS

With all great bulls, the ability to pull the best from both sides of the pedigree makes all the difference, and like many other great bulls before him, Driver was able to do just that. While Hussli supplied components and strength, the President dam of Driver

supplied great udders and the dairy style needed for adequate scoring daughters.

One look at the Driver daughters tells the story. They are above average in stature with good strength and width. The exciting part of examining his daughters occurs when looking at udders and feet and legs. They have long, smooth fore udders, strong udder cleft with close teat placement. In addition, Driver daughters have shallow udders and short teats. Their feet and legs are also quite impressive with straighter legs and steep foot angle.

Upon examining the Driver daughters, I found a very uniform pattern. Almost every dairyman commented on the udder improvement over their dams and how the Driver daughters were very efficient when it comes to reproduction. Many of his daughters were due to calve back in twelve months or less and the vast majority of them became pregnant after one service. His high DPR rating would back up these observations.

Many questions have been asked about the fact that Driver is only +0.0 for PTAT. It is perplexing to many breeders to see a bull with great linears and a relatively average final score for type. The explanation for this lies with Driver's sire, Hussli. In Germany, they place linear scores on the daughters but not a final score, therefore, Hussli is entered in at his parent average for type, which is quite far from what he sires, while his linear traits take into account Hussli's current information. Driver is well above his parent average for type and may move higher with more daughters scored.

Driver combines high components, great udders, outstanding feet and legs along with the opportunity for an outcross mating. He makes a logical choice to use on Payoff, Eagle, Jolt and Collection bloodlines. For a true chance to put your herd in the DRIVER seat, take a look at 014BS00314 Driver.

SATISFIED CUSTOMER:

"We have two Driver daughters. Both are well above herd average with great components. They both have great udders and one of them, Ratzie, is the best overall young cow we have milked."

BOB EBERHARD
Curvecrest Farm • Glencoe, Minn.

PHOTO CONTEST RESULTS & 2009's THEME



1ST PLACE ~ 'Working At Dusk'
Stephen Lethbridge ~ Union Bridge, Md.



2ND PLACE ~ 'I'm Gettin' Her Ready!'
Naomi Church ~ Cresco, Iowa



3RD PLACE ~ 'Play Time'
Deborah Brown ~ New Philadelphia, Ohio

The photo contest theme of 'Caught in the Act' must have captured interest of many people as the 2008 contest had a large number of entries. Photographs came in from across the United States as well as internationally making it a very exciting and challenging contest for our judges. The winners of the 2008 Photo Contest are displayed above.

For those of you ready to get started on the 2009 Photo Contest we have two themes for you to try your photography skills on. - 'Favorite Cows' and 'Picturesque Pastures'. For the 'Favorite Cows' theme, pick out your favorite cow or calf and take a picture of them in their favorite setting. For the 'Picturesque Pastures', we want you to take pictures of cows on beautiful pastures enjoying the seasons of the year.

Multiple photos can be entered in the contest, but we want you to send in your best, so before you send them think about these things: is the photo clear and crisp, not foggy or cloudy; and do the animals look healthy and clean. Digital Images are preferred and need to be sent as a high resolution (300 dpi) JPEG image with photo size at 8" x 10" or larger. Digital images can be send via email or on a CD.

The entry deadline is SEPTEMBER 1, 2009! For each photo entered, please write on the back of each photograph or include in the email : your name, address, phone number and the photo's title. Then send your entries to: Accelerated Genetics, Kari Stanek-Editor, E10890 Penny Lane, Baraboo, WI 53913 or email kstanek@accelgen.com. If you have any questions, please call 800.451.9275.

SALES PERSONNEL HONORED AT TOP ACHIEVERS 2008

BY: KARI STANEK, COMMUNICATIONS & PUBLIC RELATIONS COORDINATOR



The Accelerated Genetics President's Award Winners for 2008. *Standing:* Todd Wenzel – Membership Sales Representative; award presenter Joel Groskreutz, President and CEO; and Tom Kugler – Independent Sales Representative. *Sitting:* Jason Goke – A.I. Technician and Eder Martinez, Mexico – International Sales. *Not pictured:* John Merrill – District Sales Manager.

Accelerated Genetics recognized top sales representatives in December for their achievements in sales and service at the annual Top Achievers Banquet held at the Glacier Canyon Resort in Wisconsin Dells, Wis. Forty-one sales representatives, servicing customers across the United States and Mexico were honored.

Five individuals took home the top honor bestowed upon each sales position, the prestigious **President's Award** given by the Accelerated Genetics President and CEO, Joel Groskreutz. Winning the President's Award from each sales position included: A.I. Technician – Jason Goke, Belleville, Wis.; Membership Sales Representative – Todd Wenzel, Menasha, Wis.; District Sales Manager – John Merrill, Sulphur Springs, Texas; Independent Sales Representative – Tom Kugler, Valley Falls, N.Y. and International Sales – Juan and Eder Martinez, Torreon, Mexico.

President's Award Runner's Up were presented to: A.I. Technician – Dave Holzinger, Lancaster, Wis.; Membership Sales Representative – Dan Esch,

Dodgeville, Wis.; District Sales Manager – Jim Gagnon, Greene, N.Y.; Independent Sales Representative – Edwin Correia, Patterson, Calif.; and International Sales – World Wide Sires, Ltd., Visalia, Calif.

The **Award of Excellence** recognition was given to District Sales Managers – Jack Van Hoven, Hudsonville, Mich.; Ivan Smith, Middleton, Idaho; and Randy Whitman, Greenville, Pa. A.I. Technicians – Darin Klevgard, Osseo, Wis.; Gary Hansen, Richland Center, Wis.; and Carl Avery, Durand, Wis. Independent Sales Representatives – Allan Pereira, Bakersfield, Calif.; Al Warmerdam, Lodi, Calif.; and Benny Cotta, San Luis Obispo, Calif.

Many Accelerated Genetics sales representatives were also presented with Top Achiever Awards for the following Individual Categories: **100,000 Unit Achievement Award:** Ivan Smith, Middleton, Idaho – District Sales Manager and Terry Gowin, Marana, Ariz. – District Sales Manager. **Greatest Increase in Retail Semen Dollar Awards:** Todd Wenzel, Menasha, Wis. – Membership Sales

Representative, Jim Gagnon, Greene, N.Y. – District Sales Manager; and Allan Pereira, Bakersfield, Calif. – Independent Sales Representative. **Largest Product Sales Volume Awards:** Bruce Patnode, Arkansaw, Wis. – A.I. Technician; Todd Wenzel, Menasha, Wis. – Membership Sales Representative; John Merrill, Sulphur Springs, Texas – District Sales Manager; and Benny Cotta, San Luis Obispo, Calif. – Independent Sales Representative.

Crystal Bull – Largest U.S. Sales Volume Awards: Darin Klevgard, Osseo, Wis. – A.I. Technician and Todd Wenzel, Menasha, Wis. – Membership Sales Representative; **International Sales Excellence Awards**– Dr. Eduardo Herrera, Torreon, Mexico; Carlos Cortes, San Jose Iturbide, Mexico; Dr. Ricardo Garnica, Lagos de Moreno, Mexico; Juan Martinez, Torreon, Mexico; Eder Martinez, Torreon, Mexico; and Dr. Vicente Luna, Querétaro, Mexico.

NAAB Lifetime Awards were also recognized for the following categories: **500,000 Unit Award:** Ivan Smith, Middleton, Idaho – District Sales Manager. **1,000,000 Unit Award:** Dennis Thompson, Mondovi, Wis. – Membership Sales Representative. **100,000 Cow Club Recognition:** Ken Kohlmeier, Reedsburg, Wis. – A.I. Technician. **200,000 Cow Club Recognition:** Dick Beck, Lodi, Wis. – A.I. Technician.

In addition to the above awards, A.I. Technicians, Membership Sales Representatives and District Sales Managers were honored for **Top Sales Volume** throughout the year, they included: A.I. Technicians: Ken Montsma, Brandon, Wis.; Benjamin Slack, Viroqua, Wis.; Rick Welke, Stanley, Wis.; and Richard Johnson, Canton, Minn.. Membership Sales Representatives: Marty Tesch, Waldorf, Minn.; Tony Mayer, Chili, Wis.; Dennis Thompson, Mondovi, Wis.; Harvey Stieve, Dodgeville, Wis.; Jim Iverson, Mindoro, Wis.; Dave Sattler, Hartland, Wis.; Ben Ekern, Peterson, Minn.; and Bob Brock, Shawano, Wis. District Sales Managers: Gerald Feikema, Brookings, S.D. and Cesar Silveira, Arlington, Wash.

DOMAN DOMINATES THE IN-DEMAND TRAITS



BY: GREGG TOPP, DAIRY SIRE ANALYST

014HO04598 Halo Macho Doman-ET is a uniquely bred PACE graduate who brings a rare combination of high production (+1775 PTAM +59 PTAF +36 PTAP +509 NMS) and high health traits (+3.9 PL +2.97 SCS +1.4 DPR) without sacrificing type (+2.1 PTAT). His highly-reliable genomic blended proof ranks him high on the TPI list as well as making him that 'no holes' bull that mates well with many popular bloodlines. His calving ease (6% SCE) and daughter calving ease (5% DCE) also make him a perfect option for heifer breeding programs.

DOMAN'S BREEDER



Photo supplied by Holstein World

Walter Faryna of Halo Farms is the breeder of 014HO04598 Doman. This photo of Walter appeared on a past cover of the *Holstein World* magazine.

Halo Farms is owned by Walter Faryna, Perry, New York, which is located in Wyoming county – the largest milk producing county in the Empire state. It was established in 1942 by Walter's father, Henry, who began breeding quality registered Holsteins in 1945. They currently milk just over 400 cows in free stalls and milk in a parlor. The herd's genetics have long been greatly respected by visitors and the list of happy buyers is lengthy. Walter was also recognized as the New York Master Breeder award in 1995.

DOMAN'S PEDIGREE

Doman is sired by Windsor-Manor Machoman, the former number #1 TPI

Rudolph son, and his dam is a tremendous Manfred daughter. She classified Very Good-86 with a Very Good Mammary as a two-year-old while completing a record of over 34,000 milk. His grandam is a Very Good-85 Pen-Col Emery daughter who completed a first lactation of nearly 32,000 milk. His third dam was a Very Good-86 Excellent Mammary Bellwood daughter and his fourth dam is the Matriarch of the Halo breeding program – Halo Blackstar Deba. She is recognized worldwide as one of Blackstar's finest daughters combining type, production and the ability to transmit it to her daughters. She is classified 2E Excellent-92 Excellent across board, was recognized as a Gold Medal Dam and Dam of Merit while having lifetime totals in excess of 135,000 milk.

DOMAN'S DAUGHTERS

Doman daughters are consistently average-sized, angular with flat bone, and have adequate depth of body. They are wide in the rump with a clean-boned leg with average foot angle. The udders are snug with extremely high, wide rear udders, close teat placement with a shorter teat and exceptional udder quality.

As his pedigree would predict, they tend to mature quite well and get better as they end their first lactation. With the way Machoman's and Manfred's matured and lasted and with the extreme Productive Life, it is safe to assume Doman daughters could compare to the Potter daughters as they age. With no Outside or Bellwood Marshall in his pedigree, he makes a logical mating on daughters and granddaughters (Airraid, Billion, Buckeye, Lou, and Toystory) of them as well as an excellent choice on Marion, Bolton, Nifty and Boss Iron daughters.

TESTIMONIAL

Due to his confidence in the maternal line, Walter

Faryna used the bull and ended up with six milking daughters of Doman. He describes them, "My Doman daughters are open-ribbed, dairy and angular. They grow and mature as two-year-olds – changing and developing quite a bit in that first lactation. They all bred back well and have very good dispositions."

CUSTOMER SATISFACTION CANDIDATE

Over the years former PACE sires such as 014HO01114 Roebuck, 014HO02090 Manfred, 014HO02586 Sailor, 014HO02736 Ito and 014HO03597 Potter have been mentioned as great 'customer satisfaction sires'. What they all have in common is high Productive Life, above average production, low calving ease, acceptable type and fine dispositions. When you evaluate the traits that Doman possesses you can see that he has the recipe to follow in this long line of 'customer satisfaction sires' and PACE graduates.

In recent years, profitable dairies around the world have demanded sires with higher Productive Life, lower Somatic Cell Score, better Daughter Pregnancy Rates. And 014HO04598 Doman excels in all of these areas and still is a high production and high type bull. If you are looking for long-lasting, trouble-free cows that milk well with low somatic cell counts, breed back easily, have small calves and are easy to work with, take a good look at Doman! He is the commercial dairy's bull to use in 2009.



014HO04598 Doman Daughter: Country-Aire Doman 5152 GP-82, Country-Aire Dairy, Greenleaf, Wis.

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