DAIRYMAN
GLEN BROWN:
Registered Holsteins® are the heart of his business

INSIDE
The future is bright: a message from our President
Hope on the high desert: Utah Holstein breeders
President's Column
HOLSTEIN ASSOCIATION USA: MEMBER STRONG

Future of the Holstein breed has never been brighter

I would like to extend thanks to the Washington Holstein Association for a great convention. The convention center was first class, the tours were educational and your hospitality was exceptional. Nothing could have topped off host day like the raspberry sundaes!

The convention is an important function for our organization. Delegates choose your leaders for the next year and have the opportunity to give their input on policy. The interaction that takes place at convention is very valuable in shaping the future of the association. The HAUSA directors value your thoughts and ideas and take their role seriously. It is a tremendous honor for me to serve as your president the next two years.

Every time I stand before the delegate body, I am amazed at the collective knowledge and wisdom represented there. The accomplishments and talents of each delegate are impressive alone. But when added together you create quite a résumé! Then, adding in each of our members back home, the résumé would be even greater. I believe that you, our members, are our greatest resource. It is my hope that the Holstein Association can leverage that resource to make the Holstein Association even stronger and more effective than it is today. Your involvement is crucial.

The delegate election process is under way for the 2018 National Convention in Michigan. Every year there are delegate positions that go unfilled. Delegate policy allows for alternates within a region to fill seats in other states where no delegate has been elected. Alternate delegates also serve an important role because each year a number of elected delegates are unable to serve. I encourage you to be a part of the representation process by being nominated to serve as a delegate.

Committees are another opportunity for member input. There are currently seven committees that recommend policy to the board. Former President Cook did a nice job explaining the roles of committees in previous issues of The Pulse.

With 17,613 adult members and 8,926 junior members, HAUSA can have a lot of influence in forming public policy. No doubt milk prices over the last two years have made the dairy business tough. This fall your board will look at possible ways to influence dairy policy in the next farm bill. We also are concerned about protecting dairy’s image and being proactive on animal care issues. Our Legislative and Industry Affairs committee will be taking the lead with this endeavor. One approach might be to partner with other dairy advocacy organizations already working on these issues. I believe you can be a key player in your local communities. I encourage you to never underestimate your power to speak on behalf of dairy farmers.

“\"This fall your board will look at possible ways to influence dairy policy in the next farm bill. We also are concerned about protecting dairy’s image and being proactive on animal care issues. Our Legislative and Industry Affairs committee will be taking the lead with this endeavor.\"”

We believe that it will greatly enhance the association’s ability to provide information and service to the members. We welcome your input on programs or services important to you. Contact information for the board is listed in The Pulse for your convenience.

I believe that the future of the Holstein breed has never been brighter. The combination of a vast genetic base, with the many tools we have to breed better cows, gives the Holstein cow a powerful advantage over any other. The association has a great group of dedicated employees working hard to serve you. Combining that with the strength of the membership, Team Holstein is very well positioned for the future.

Have a safe and bountiful fall.

Boyd Schaufelberger, President, Holstein Association USA, Inc.
ON THE COVER
Glen Brown, past president of Holstein Association USA Board of Directors, overlooks his family farm. Read more about Glen and two other Utah breeders on pages 6-11.

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### Important deadlines
- **November 1**: Ballots mailed to members
- **January 2, 2018**: Ballots must be received by Holstein Association USA
- **February 1, 2018**: 2018 delegate election finalized

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**DELEGATE ELECTION**

Election of delegates for the 2018 Annual Meeting is under way. The 2018 Annual Meeting will be held July 2-3 in Acme, Michigan. Delegates will elect directors and vote on bylaw amendments and resolutions as presented.

**Check out our Classification Schedule on [www.holsteinusa.com](http://www.holsteinusa.com)**

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Welcome to the new Holstein Pulse.
It looks different. It has a decidedly different cover and other new features. We think it will be more satisfying for readers.

In many important ways, though, it's the same old Holstein Pulse.

It's the best of both the new and the old, and we hope it appeals to all of you.

Our editor, Ashley Mohn, mentioned to me several months ago that she thought The Pulse could use a facelift. With great input and direction from Eric Grant and his team from the Grant Company, and our graphic design coordinator, Pat McDerby, a 33-year Holstein Association veteran, we started working on this redesign and weren't quite sure where we'd end up. We did know, however, we had to take a big step ahead in the communications world while keeping one foot in the old.

So while the typefaces are different, and the cover is new, and we've added new types of feature articles, you will continue to find the many things you have enjoyed in The Pulse for years.

We've eliminated next to nothing.

Holstein Association USA member interviews like those found on pages 6 through 11 will be incorporated in different ways digitally on the web in the future. We know you are busier than ever, and many readers want their information fast and easy. Study after study has shown both of those things. This is our attempt to respond, and we think it works.

In the future, you can look forward to a new, improved Holstein Association USA, Inc. website as well. We have a lot of things going on at this time as we are replacing our current Information Technology (IT) platform and systems that support the Association’s core business functions in registry, membership, customer service, and Holstein Genetic Services. In the end, this upgrade will provide you, our members, with better and more convenient service.

All in all, we're making lots of good changes, and we're keeping many good things the same.

Now it's your turn. Sit back, take it easy, and spend a few minutes with The Pulse. We've done our best to make that possible, with this issue of The Pulse.

John M. Meyer, Chief Executive Officer, Holstein Association USA, Inc.
There's no better way to raise a family, or for young people to learn the basic principles of life. In order to do this, you have to use the best cows — Registered Holsteins®, in my opinion.

— Glen Brown —

It's the registered aspect that really allows me to track my progress. I know who these cows are and where they come from.

— Michael Brown —

SWEEPING CHANGES
Utah's Brown family farm faces uncertainty, but Registered Holsteins® remain the heart of their business.
twenty miles south of the Brown family's dairy, the Park City ski area rises into the sky, an unmistakable symbol of the change that's swept across this mountain valley.

Once home to more than 50 dairies, there are just three left. Their dairy's future is uncertain as urban encroachment impedes on pastures and hayfields, and a recreation-focused community muscles out farming and ranching.

Everything began to change in 2000, reflects Glen Brown, when the resort hosted the Winter Olympics and the world discovered his home.

"The model we've operated on for quite some time is becoming a challenge economically," says Glen, who served as president of Holstein Association USA. "We're beholden now to buying everything, and that makes it very difficult. My sons, like I, have a deep interest in agriculture. We love the agricultural business, and we love the dairy business. We love the Holstein cow."

"As a family business, we've been trying to decide how to go forward. So, we're struggling with what we should do. If we want to stay in the dairy business, we might have to relocate — and that's not an easy thing."

Brown Dairy Inc. has operated continuously since the early 1960s. The family invented and manufactured the Dairy King Milk Tank, one of the industry's first refrigerated milk tanks. They started a dairy as a way of testing the new technology.

For 40 years, the Browns bottled Brown Summit Valley Milk for stores across northern Utah. Their location was ideal for growing business, given its feed resources, cool summers and close proximity to markets like Salt Lake City.

The Browns' 300-head operation—with Registered Holsteins® as its centerpiece—has remained pretty much the same size since the beginning. But the productivity of the herd has increased substantially over time. Its rolling herd average is now 26,000 pounds of milk, with increases each year. The family produces milk exclusively for Gossner Foods in Logan, Utah.

"I used to have a sign in my office," Glen says. "It said 'Farming's not a job; it's a stress test.' If you're looking for ways to make money, there are better ways than milking. But there's no better way to raise a family, or for young people to learn the basic principles of life. In order to do this, you have to use the best cows—Registered Holsteins, in my opinion."

**Commonality of the cow**

Research conducted by American Farmland Trust determined that the nation now loses about two acres of farm and ranchland every minute. That means farmers and ranchers must become more efficient and more productive with access to fewer resources.

And no one is more aware of this reality than the Browns.

Standing on a hillside overlooking the valley, where one can see the encroaching pattern of new homes and roads and hear the increasing traffic along the highway, Glen reflects on the past and future of his family.

One thing will be certain as the family pushes forward: Registered Holstein cows will continue to be the centerpiece for the Browns.

"The commonality of the cow bridges differences," Michael says. "There's a deep connection among those of us who milk for a living — especially those on the registered side. Dairying is working with an animal that's independent in and of itself, but also relies on human interaction to reach its potential. I get a lot of satisfaction out of seeing these animals perform at their highest capabilities."

"I enjoy the challenges. I enjoy the nature of it," he says. "You're close to nature. You're close to the earth, and you're dependent on it. Besides that, I've met some of the finest people in my life because of farming."

The family stands as a testament to the spirit of dairying, even when the world around it is changing. Association programs help keep producers like the Browns in business, continuously working to increase the relevance of dairies across the country in spite of economic and cultural uncertainty.

"I've traveled the world," Michael tells us. "And Holstein USA is the gold standard."
The Papageorge family first laid eyes on Utah's Salt Lake Valley in the 1920s. They’d emigrated from Greece to escape the economic upheaval of post-World War I Europe. What they found was backbreaking work, having secured jobs with the railroads, but they never let go of their dreams of owning land and farming for a living.

Harry Papageorge, 83, rarely forgets the commitment it took to establish their dairy about 45 minutes north of Salt Lake City in the small community of Farr West. He remembers when his father, having made the final payment to the bank, gathered the family for a ceremonial burning of the mortgage.

It was a monumental moment for the Papageorges, the moment they became free, the time they realized their American Dream.

Standing less than five feet tall, Harry, who served as a member of the Board of Directors for Holstein Association USA, may be small in stature but he’s a giant among those who know him. He leads by example, always the first at work, the driving force behind his family’s success in the Registered Holstein® business.

A blessing from tough times

In 1939, as part of the country’s brucellosis eradication program, all except two of the Papageorges’ cows tested positive for Bang’s disease and had to be sold. When one of the two remaining cows died, Harry’s dad took the indemnity money and invested it in three Registered Holstein cows.

“One of those cows lived to be 19 years old,” Harry says. “Her name was Lady and she was bred by Carnation Milk Farms in Washington. She was a big, tall, angular cow with a high-quality udder, but not too much to look at. I can remember her like she’s standing in front of me now. She was easy to milk.”

As time passed, the Papageorge family kept buying Registered Holsteins, developing their herd.

“Holsteins were the most prominent breed than anything else at the time,” Harry says. “Holsteins were in demand and the genetics were available.”

A lifetime of hard work breeding Registered Holsteins known for their longevity has been a passion for four generations of the Papageorge family on Pappy’s Farm, Farr West, Utah.

Harry remains involved in the dairy operation, alongside his wife Helen, son Ted and his wife Debbie, and their children Lacey, Lexie and Landon. Pappy’s Farm also gratefully employs two dairymen, James Manni and Angel Tapia.

The dairy has 300 Holsteins, including heifers and calves.

Lacey also recently embarked on her career with Holstein Association USA as a regional sales representative in Colorado, Idaho and Utah.

Raising Registered Holsteins has been Harry’s whole life. “Milking cows is a way of making money, but the registered aspect of it just made it a lot more interesting because of going to the shows, trying to achieve breeding better type,
From the beginning, Registered Holsteins® have been central to the Papageorge family.

**Better-producing animals,** Harry says. “The cow that’s built right will be a milk cow, and it’s just been an inspiration to us to keep going.”

**Always changing**

Harry says that A.I. has had the most effect on his farm over the years.

“When we started, it was natural breeding, because there was no A.I.,” he says. “As time went by, I learned how to do it. We always try to use the best bulls possible. Through sheer luck a lot of times, things worked out for us and we’ve really been quite successful at showing and breeding cows for conformation that makes them last.”

Over the years, Pappy’s Farm developed high-quality Registered Holsteins, selling to other Holstein breeders along the way. At one time, Pappy’s Farm had four bulls in active A.I. service that produced daughters with a predicted difference of more than 1,000 pounds of milk. The farm has sold bulls all over the western U.S. and to other countries, including France, Germany, Japan and Mexico.

“We were never afraid to sell a good one,” Harry says. “When you sell one, she better be good. If you stand behind your cattle, you’ll get repeat customers.”

That TLC toward the cows is evident on Pappy’s Farm.

“All of the people that work on the farm really care about the cows, want them to be healthy and comfortable and care for them the best they can,” Lacey says. “My dad works hard to match the cows and breed them to a bull that will help their calf be an improvement on its dam. We’re always focusing on improving our next generation. I think the registration aspect has helped a lot to improve our herd and make it so we can always be advancing and working to better our cows.”

“We breed good type animals and take good care of them, which all pays off when we get to the showring,” Lexie adds.

**Strong work ethic**

You don’t get to be 83 years old and a lifelong dairyman without leaving a legacy behind. Harry’s family sees him as a living symbol of the continuing dreams of their ancestors, who struggled and then succeeded in building one of the West’s great dairies.

“My grandpa taught me that you have to be a hard worker,” Lexie says. “If you’re not a hard worker, you’re not going to get what you wanted.”

Lexie adds that her grandpa taught her a lot about showing.

“He taught me different techniques of showing, how to get them ready, clip them, how to feed them to get them looking right,” she says.

“He is super inspiring because he never stops working,” Lacey says. “Just looking out the window in the morning and seeing him out there makes me want to work hard every day.”

Despite his age, Harry hasn’t slowed down.

“He is still able to work because he always kept going and stayed focused on reaching his goals,” Lacey says. “What makes him an exceptional dairyman is his work ethic and never giving up. Even through the war when he was little, going through bad milk prices when times are tough in the dairy industry, he’s never given up. I think how much he cares about the cows is exceptional.”

Hard-working Harry Papageorge, the son of Greek immigrants, is a lifetime believer in the power of the Registered Holstein cow.
Registered Holsteins® offer Doubletree Dairy the most potential for success.
For Bill Wright, the reminders of history are everywhere. His family first came to Utah in the 1850s as part of the ill-fated Martin Handcart Party, a group of English immigrants whose journey across the Mormon Trail started too late in summer. When early winter storms raged across Wyoming, they most certainly would have been lost to history, had it not been for a rescue party formed by Brigham Young.

“It puts it all in perspective,” Bill reflects. “It reminds me every day of what real challenges look like.”

His Doubletree Dairy — located near Holden, Utah, on the high desert about three hours south of Salt Lake City — is in a productive valley, in spite of its isolation. The farm just north of the dairy exported more than 50,000 tons of alfalfa to China, Japan and other Pacific Rim countries last year. His dairy produces fluid milk for the growing Salt Lake City market, and he even owns a carriage and draft horse business that takes him as far away as Las Vegas for weddings and funerals.

The dairy itself traces its roots back more than 50 years. The Wrights have dairied in four locations, having moved here about 12 years ago to escape urban encroachment of the Salt Lake Valley.

It all started in 1957 when his father encouraged the family to look at the dairy business as a new livelihood.

“We built a little barn and wanted to milk cows,” says Bill, who served on the Board of Directors for Holstein Association USA. “Of course, I was interested. It was a flat little barn and most dairies at that time had to have tanks. We’d milk cows in an old Surge bucket. I still have the test sheet from those first 12 cows and still remember their names. I wasn’t big enough to put the milker on, but when the bucket got full, I took it off.”

The first Registered Holstein® joined the operation in 1960.

“We just grew very slowly,” Bill says. For him, cows have always been a passion.

“I particularly enjoy the breeding end of it and working with the animals,” he says. “The thing that’s the biggest challenge to me is to improve conformation and production. I would dare say most dairymen milk cows so they can be able to make a living. There’s a minority of dairymen that milk cows because they’re interested in breeding.”

Bill states that he enjoys finding pedigrees and making decisions for improving his cows. Doubletree Dairy has a rolling herd average of 24,000 pounds of milk, milking 3X each day.

“I like cows that are put together well and have good balance and good udders,” he adds. “We do some genomic testing on E.T. females.”

Doubletree Dairy today

Doubletree Dairy is home to 500 milking cows with about as many heifers. The dairy rests in a valley surrounded by mountains that are about 9,000 to 10,000 feet in elevation. “We’re on the very western slopes of the Rocky Mountains,” Bill adds. “It’s hard in the summer; there’s very little moisture. We have to pump all our water from wells.”

The Wrights irrigate 500 to 600 acres of land using pivots.

“It’s not pasture,” Bill says. “It’s just dry ground and sagebrush.”

Winter isn’t kind in the desert, either, offering occasional temperatures of -25 degrees or -30 degrees Fahrenheit.

“We can easily get down to zero or -10 F for several days,” Bill says. “We don’t get a lot of snow, so the weather’s particularly dry.”

Despite climate challenges, he says the area is a prime spot for growing feed, especially alfalfa hay, the basis of Doubletree Dairy’s ration, in addition to small grain silage and concentrates.

“We have lots of space,” Bill says. “We don’t have to confine everything. We fenceline feed our heifers that are in 250 to 300 acres. In the summer, they’re just out there in the sagebrush in some sandy hills, and they do very well.”

Best potential for success

Bill credits Registered Holsteins with providing the best potential for success in the dairy business.

“That’s what we started with, and I’ve never really thought of doing anything else,” he says. “As we’ve been dairying now for 50 years, they’ve provided us the best way to raise a family and give me more potential to become involved in breeding programs and marketing, in addition to milk production.”

— Bill Wright —
# Trends in Holstein Genetics

Sam Comstock, Ph.D., Genetics Programmer Analyst, Holstein Association USA, Inc.

This article is a display of simple trends we can see within the Association’s Herdbook. It is perhaps sobering but not new, as much of this has been discussed and written about in the popular press, although sometimes in more anecdotal terms.

**Figure 1**

![Graph showing TPI trend for registered females by year of birth.](image)

Figure 1 has the TPI® trend for registered females by year of birth. It illustrates the best female born each year ("Max"), as well as the average of the Top 1,000 and Top 10,000 females as ranked by TPI, and the breed average TPI for all registered females. The difference between the Top 1,000 and Top 10,000 runs at about 154 TPI points, while the best female in each birth year has averaged 370 points above the Top 1,000. Note how the averages are increasing at an increasing rate over time; this is related to more accurate genetic predictions and to more-direct selection on the components of the TPI as it has evolved over time. For example, females born in 2000 were from matings made when the TPI simply included Protein, Fat, Type, Udder Composite, and Feet & Legs Composite. The most obvious change in the rate of increase is apparent in the females born since 2008, due to increased accuracy from genomic prediction.

The remaining figures are based on the group of Top 10,000 TPI females in each birth year. There are few surprises in Figure 2; due to the increased use of reproduction technologies (ET/IVF), coupled with more accurate genetic prediction, there are now about two Top TPI females born per dam in this group each year. Because of this trend, there are also now fewer Maternal Grandsire (MGS) of the Top TPI Females. However, the decline in MGS goes well beyond the effect of fewer
In 2000 there were 5.7 dams per MGS and in 2016 there were 13 dams per MGS. The combined effect is a greater degree of relationship among the top females in the breed. Also note the historic relative diversity of MGS as opposed to Paternal Grandsire (PGS). The Council on Dairy Cattle Breeding’s trend in inbreeding coefficients quantifies the overall rate of increase in inbreeding (now nearly double that of 2000), while this figure illustrates in part the role of increased selection intensity applied to dams.

Figure 3 is what started my interest in writing this article; I have read of a decrease in the number of breeders of elite females, and this takes a look at both the number of breeders and owners over time (more specifically, these represent the number of billing accounts of breeders and owners). It is helpful when reading this graph to remember the preceding figure which showed the number of dams of these Top Females has dropped by half, as this alone will cause this graph’s trend to decline. Also note the trend has been remarkably consistent over the years before and after the introduction of genomic prediction, and is likely partially reflective of the ongoing trend in farm size across the country. Not shown in the graph, in the past five years there have been 442 different breeders of AI bull dams, while there were 973 from 2000 through 2004. (I removed herd bulls from this by only counting bulls who sired calves bred by more than 10 different accounts.) I would note the decreases in breeders of both males and females are quite significant, but also not as extreme as some write of.

Figure 4 shows the number of offspring recorded for the Top Females, as well as the number of Top Females who were classified. The sudden declines on the right-hand side are simply due to animal age, not some remarkable change in breeder behavior. Also note these Top Females were picked simply by their TPI—some of them would have died as calves, some culled based on individual traits, and some sold as breeding stock to farms not participating in the Association’s record-keeping programs, so it is not surprising that all of them were not classified. These trends reflect fundamental changes taking place within the industry that we are likely all well aware of. Increased selection intensity and shortening generation intervals will require diligent monitoring in the years to come. That said, I am encouraged by the rapid adoption of new technologies like the haplotypes impacting fertility in breeders’ mating decisions; these genetic conditions are a considerable portion of the root cause of inbreeding depression. Similarly, mating software will play a greater role in controlling the rate of inbreeding while continuing the improvement of the breed.

Holstein Association USA offers a free tool on our web site called the Inbreeding Calculator. The Inbreeding Calculator allows a breeder to input one female and up to 10 potential mates. In addition to providing Pedigree Inbreeding percentages for each mating, if both the female and bull are genomic tested, the more accurate Genomic Inbreeding percentages will be provided as well. The program also provides parent average values for several key traits, including Milk, Fat, Protein, Productive Life, Fertility Index, PTA Type, Udder Composite, and TPI, along with parent averages adjusted for inbreeding depression. The potential mates are ranked in order of TPI adjusted for inbreeding.

Over 7,000 matings per month are run through this useful tool - check it out today at www.holsteinusa.com!
In this day and age, technology and innovation are all around us—helping us understand, interact and engage with our environment and with each other. On the dairy, the use of technology isn’t new—dairy producers have embraced technology, improving efficiency, profitability, cow health and much more. For us at Allflex, we too have played a small part in this evolution, alongside our key partners in Brattleboro – the Holstein Association – by extending our product offerings from our simple visual identification tags to RFID tags (often called ‘Electronic ID’) and our more recent addition of genomic tissue sampling devices. All along the way, our focus has been to bring world-class tools to world-class dairy producers, and we hope we have served you well.

A few years ago, we expanded our focus through the acquisition of the world’s leading dairy monitoring company – SCR Dairy (www.scrdairy.com). It was a big jump for us, as for the first time we had a tool that directly aided in decision making – giving producers a window into the activity of your animals – physical and physiological – and offering new value propositions such as early disease detection and heat monitoring and windows into such things as nutrition and heat stress. For us, a company long associated with our byline, “The World’s No.1 Livestock Identification Company”, this was – and is – a big step. But it was an important part of our company’s growth, enabling us to bring more value to our key partners and customers.

Every day, on the dairy, you too look for ways to be more efficient, to look after your amazing Holstein cows better and better, and to produce more healthy and delicious milk. Much like our company, you look for ways to ‘reinvent’ yourselves and your operation to make the most of the people and the resources you have. Usually that comes in evolutionary steps – but sometimes, it’s a bit more revolution than evolution. Look at the rapid rise in the utilization and value of genomic information – it’s changing the way we look at and manage our animals, providing us with more real, actionable data, and helping us make better decisions every day to the betterment of the herd. And when that came together through the Enlight® system pioneered by your Association and Zoetis, you had a revolutionary new tool to make the most of every single animal under your care.

In our humble view, Animal Monitoring is just such a technology—like Genomic Testing and Management—that can be a revolutionary, game-changing technology for your dairy. Monitoring will open up new and exciting ways to take care of our wonderful Holstein cow—to know when she is stressed, off feed, ready to breed, etc.; and will allow the breed to flourish in this age of data and information. It’s clearly become part of our evolution, and has changed how our customers see us, and how we see ourselves—from animal identification to “Animal Intelligence... for life™.”

As your partners, if we can help you take a look at how monitoring can work in your operation, please contact us and we’ll be happy to show you why we’re so excited to be part of this revolution.

Glenn Fischer, President, Allflex USA, Inc.
With over 60 years in the animal identification business, we’ve been involved in some of the most important technology advances in our industry. From laser-ink marking, to electronic ID, to tissue collection, to our venture with SCR animal health monitoring.

We provide the tools, to manage cows in more ways than ever before.
Illuminate Your Dairy’s Future with Enlight

“I use Enlight all the time. Whether it is for finding ET recipients, heifers to genomic test, or viewing the progress of the herd as a whole, it captures a herd the size of ours—either at a population point of view or individually—extremely well, and makes it easy to manage all of our Holsteins! The program saves me a lot of pedigree evaluation and headaches.”

Matt Ruby, Fir Ridge Holsteins, Oregon

Enlight is an online management tool designed to help Holstein breeders handle herd genetics more efficiently.

This valuable resource is a collaboration between Holstein Association USA and Zoetis. Once enrolled in Enlight, all tests ordered by a herd will be processed by Zoetis, using one of their CLARIFIDE test options.

Learn more about Enlight at www.holsteinusa.com

To enroll, contact Holstein USA Customer Service at 800.952.5200, or visit www.enlightdairy.com!