



# The Value of Hereford Genetics in the Commercial Industry

## Congratulations, Now Keep Working

*Genex's Lorna Marshall praised Hereford breeders on improvement, encouraged continued commitment to excellence.*



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**G**enex U.S. Beef Marketing Manager Lorna Marshall was at the last Hereford type conference 10 years ago, and she admitted at that time she wasn't a big Hereford fan. The first thing she spoke about at the Hereford Genetic Summit Friday, Sept. 5, was how much progress the breed has made. It won her over.

### Decade of change

“For those of you who were there 10 years ago, I was a little bit harsh in my comments about where the breed needed to go and its direction,” Marshall

said to Hereford breeders in attendance. “I was actually really excited to get to come speak to you today because there is probably no bigger promoter and cheerleader for this breed than I am today. That's because of all the awesome genetic change you have made and your attention to the commercial industry.”

She continued, “I feel like for the last 10 years, the Hereford breed has been on a mission to become really commercially relevant and the goal that needs to be set forth coming out of this conference needs to be to finish that strong.”

Marshall said Hereford is experiencing some amazing times. Hereford bull sales are at record prices, and it's a fun time to be a Hereford breeder and to own Hereford cows.

“Today it's really fun for me to go sell Hereford semen, because I have a plethora of bulls in my lineup that are calving ease bulls that are high accuracy that represent a lot of different pedigrees and can do a lot of powerful things for commercial producers.”

She said what Hereford has to offer commercial cattlemen is very different compared to 10 years ago.

Marshall praised Hereford on being the first to introduce an udder quality expected progeny difference (EPD), because udders are important to commercial

cattlemen. “I promise you that as you continue to turn in that data and publish udder EPDs, the commercial industry will embrace it and utilize it,” Marshall said. “You really addressed one of your big issues head on and that says a lot about your breed and your leadership.”

Also, Marshall said the Hereford breed has done a good job in the last 10 years focusing on curve-bender cattle that have light birth weight, rapid early growth and moderate mature size. “It's fun today to go sort your database because you have created curve-bender cattle that we can select from and the commercial industry can use,” she said.

In Genex's large herd initiative, Marshall said, two important traits commercial cattlemen are avoiding are too much milk and cows that are too big. “They are going to keep selecting for growth because they are getting paid for it,” Marshall said. “But they want moderate mature size cows and they are concerned about cow size.”

Marshall said her favorite thing the Hereford breed has improved in the past 10 years is increased use of artificial insemination (AI). “That was one of my real frustrations 10 years ago. At that time the breed only had 15% AI usage. That number has doubled to about 33% even though you still have a ways to go. We need to continue to stack these pedigrees with high-accuracy bulls that have a lot of value and increase the AI use in the Hereford breed.”

High-accuracy genetics are so important because commercial producers want predictability, she said. They want to know what they are going to get. They do not like surprises, and they can't get predictability without high-accuracy genetics.

### Perfect Angus complement

Right now, the Hereford breed is experiencing increased market share and record prices. “I think that success can be attributed to two things: execution and implementation. In my time in the beef industry, I do not know of a type conference where we have seen as much positive change

in a breed as what you have accomplished in the last 10 years.”

Marshall said Hereford is the natural complement to Angus genetics. Maternal efficiency, calving ease, moderate milk, docility and hardiness are the traits she outlined as being the breed's strengths and traits important to continue to focus on.

She said, “The reason we sell so much Hereford semen today is because we have producers that are worried about the fertility of their black Angus cow herd. They want to improve disposition and they want to moderate milk and the fastest way for us to fix fertility in a cow herd is to talk them into crossbreeding and the perfect complement on an Angus cow is a Hereford bull.”

Hereford is the fastest-growing breed for U.S. semen sales among all four of the AI studs for breeding beef cattle, Marshall said. Seventy to 80% of all the beef cattle semen Genex sells goes into heifers with the remainder into breeding mature cows.

### Expanding with Hereford

As the beef industry goes into expansion phase, Marshall said producers have already bred a lot more heifers this spring than in previous years.

Marshall said because of her dealings with commercial cattlemen, she is aware of their traits of concern. The first one is docility, which she identified as one of the Hereford breed's strengths.

“One of the things we are hearing more and more about, particularly as we are seeing more and more calving ease genetics being used, is calf vigor. Do the calves get up and suck? Do they have energy or are they the kind that lay there?”

Feed efficiency and fertility are of great concern. “We actually wrote a five-year plan two years ago and identified two traits that we are trying very hard to collect more data on that we think will be important in the future: feed efficiency and fertility. So I think the focus that your Association staff and Board of Directors has taken in terms of collecting feed efficiency data is very important. Bottom line is we have to become more efficiency



Lorna Marshall encouraged Hereford producers to finish strong in their quest to fit the needs of the commercial industry. She said the needs of the commercial industry can be nailed down to four main things: hassle-free genetics, eliminating risk, marketability and the nod of approval in the coffee shop.

focused to compete with other protein sources.”

With fertility she said producers are interested in knowing more about both male and female fertility. Utilizing whole herd reporting is key in getting traits like heifer pregnancy and stayability.

“When we poll our commercial producers, fertility is their greatest concern because we all know that if she’s not pregnant, she’s not profitable,” Marshall said. “This is going to be a key trait for us and it plays into Hereford’s message of maternal heterosis and improving fertility in predominately black cow herds extremely well.”

She urges breeders to collect data on fertility. “I really encourage you to help the Association get the data they need to quantify fertility. Because if you get there before the other breeds do, I promise you, that is going to provide big dividends in the commercial marketplace.”

Other issues of concern are phenotypic, like feet and udders. The udder quality EPD helps

producers focus on udder quality, and Marshall admits that feet aren’t much of an issue with Hereford cattle. However, in Angus and Red Angus cattle, feet are a huge concern for commercial cattlemen.

Marshall praised the Hereford breed’s use of indexes. “Commercial producers want simplicity. They don’t want you to give them 17 EPDs to try and look through all of them. They want some relevant indexes that make selection simple for them.”

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#### Hurdles ahead

When talking with commercial cattlemen, Marshall said, she finds they want to know that their calves are going to have value when they leave the ranch. They know the females are going to perform well in their cow herd, but they want to be sure they don’t get hurt on the steer calves.



Dr. Randall Raymond and Lorna Marshall shared their thoughts on how Hereford breeders can continue to improve Hereford genetics and meet the demands of the commercial industry today.

“The feeder industry has gone from seeing Hereford genetics as negative to neutral and, in some cases, positive, but we’ve got to build on that so that there is always really strong demand for Hereford crossbred cattle.”

She outlined the best way to build demand is to improve both marbling and ribeye area.

She warns Hereford breeders

about becoming complacent because of recent success.

“Competition is getting more fierce in the seedstock business. Complacency can be a subtle byproduct of success where we can lose that healthy fear of failure,” Marshall said. “My advice is keep the knife sharp and your mind open.” **HW**

## Herefords as Maternal Sires

*Simplot Livestock has documented the advantages of using Herefords in a crossbreeding program.*

**D**r. Randall Raymond, veterinarian and Simplot Livestock Co. director of research and veterinary services, offered attendees a little different perspective Friday, Sept. 5, at the Hereford Genetic Summit. Simplot Livestock Co. owns 30,000 females on 14 ranches in four states and has been using Hereford bulls for 10 years.

In 2002 Mike MacNeil, retired Meat Animal Research Center scientist, talked to Simplot staff about the value of heterosis, and ever since the company has been taking a targeted approach to crossbreeding. Hereford genetics have been a big part of that program.

At that time, Raymond explained, there was only one Hereford bull in any of the AI (artificial insemination) studs that had calving ease with high accuracy.

“We used him hard for five years,” Raymond said. Now in its tenth year of targeted crossbreeding, Simplot continues to use Hereford bulls in a maternal sire program. Its goals are to match cattle to their harsh desert environment, to maximize hybrid vigor, to produce cattle with high-quality carcass traits

because they own the cattle all the way through to harvest, to maximize feed efficiency and to maintain long-term versatility.

“It’s my opinion and our philosophy at Simplot Livestock that no one breed needs to be everything to the industry. No one breed needs to do it all,” Raymond said.

Members of the Simplot staff use Hereford as the maternal sire part of a three-breed system. Simplot raises its own Charolais bulls for terminal sires but buy Hereford and Angus bulls. They use economic genetic selection with a multi-trait approach. Simplot has its own indexes for each of the three breeds to help staff make selections that best fit its goals.

Simplot’s Charolais seedstock production herd is very data driven. Raymond said they try to blind themselves to phenotype to a point and focus on numbers. They have carefully defined economic traits important to their operation, since all calves are fed out through one of Simplot’s feedlots. Each bull is ranked by profitability, and management uses data collected all through the production chain to keep in-house indexes up to date.

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“We believe that each producer should feed his cattle every year, even if it’s a small pen. Feed your cattle so you know what they do,” Raymond said. “It is astounding to me and a little bit scary how little carcass data gets back to where it can make a difference.”

The operation is involved in research to find DNA markers for disease resistance. “It is almost as heritable as marbling,” Raymond said. “That is a big deal to us if we could use less antibiotics, use less treatments, less sick cattle, better performance. There is a lot more work that needs to be done before we can begin selecting for

disease resistance, but we are on the road.”

In the maternal crossbreeding program, the goal is to produce a whiteface female. Of the 5,000 heifers bred at Simplot ranches every year, all solid colored heifers, black or red, are bred to Hereford, and all whiteface heifers are bred to Angus.

These crossbred females are the cattle necessary to survive in the harsh conditions of Simplot ranches.

“One thing that we tend to forget and the public doesn’t hear at all or certainly not often enough is that our cow herds

produce a very high-quality protein on country that can be used for nothing else,” Raymond said. “This country has to be used by a ruminant of some sort. These baldie females are going to spend at least eight to 12 years producing a high-quality product on very little and then she is going to become a high-quality protein product for somebody’s family herself.”

The goal of these crossbred females is to be a versatile base for anything Simplot chooses to do in the future. “Having that female be very versatile is extremely important to us,” Raymond said. “If we chose to go a completely different direction with our feeder program, all it would take is for us to sell our bull battery and buy new bulls. That’s a huge economic prospect, but not nearly as big as selling your cow herd and starting over.”

They breed those Hereford-Angus cross cows to Charolais bulls to get smoky calves. They like the white color because they can sort those calves without any effort. There’s no

chance of contaminating the maternal cow herd with terminal genetics.

#### Heterosis advantage

Raymond said he feels strongly that the Hereford advantage is in maternal heterosis, not direct heterosis. He used heterosis research statistics to prove his point.

“In a cow-calf operation there is a 4.3% increase in pregnancy rate due to maternal heterosis,” Raymond said. “That’s a big deal. The single biggest expense to a commercial cow-calf operation is retention of heifers. Because it costs a lot to make her, and every heifer you keep is a calf you can’t feed or sell at weaning.”

Heterosis also contributes to 4.2 lb. of birth weight, 18 lb. of pre-weaning gain and 35 lb. of carcass weight, Raymond said. Heterosis also contributes 4% less pre-weaning mortality. It also means about 20 lb. more weaning weight just because of heterosis.

“Heterosis makes a difference,” Raymond said. “One of the things

we really love about the Hereford breed is the heterosis it brings to our maternal side.”

He also praises Herefords for their feed efficiency, moderation in milk, female longevity, phenotypic markers (whiteface), docility, maternal versatility and fleshing ability.

Raymond said at Simplot’s ZX ranch, he talked the cowboys into sorting the heifers into solid pens and whiteface pens before breeding. “Docility is not an issue, because those cowboys love nothing more than for a wild heifer to crawl out of the chute and they have to go rope her,” Raymond said, laughing.

As the cattle came through the chute, they were running through about nine million miles an hour, Raymond describes, until they got to the Hereford-sired pen, and those cattle slowed way down.

“It was a noticeable difference,” Raymond said. “Every cowboy there was wondering what happened, why’d the cattle slow down. We used that as a learning moment, because that docility was heritable, and it was a win for our genetics program.”

Raymond also identified weaknesses he had noticed in Simplot’s Hereford bulls: too much frame, not enough average daily gain, small ribeye, poor marbling, bull longevity/libido, calving ease and gestation length.

In its research, Raymond said Simplot found Angus bulls surpassed Hereford in average daily gain but ate way more. Hereford converted better, however, beating Angus in feed to gain ratio.

“When you compare across breeds, these Hereford genetics are more efficient, hands down,” Raymond said. When they measured RFI (residual feed intake), all Angus bulls were positive and all Hereford bulls were negative.

Frame score is important at Simplot. Because they want to keep their cow herd moderate sized, they want smaller framed bulls to moderate their resulting females.

“And I know there are a lot of mixed signals from your customers,” Raymond admits. “Because they say ‘I want a moderate framed bull’ and they pick the biggest, growthiest sucker you’ve got. Sometimes what the consumer wants and what he says he wants are two different things. As breeders and producers we have to be honest with ourselves and sometimes make a hard decision to educate instead of cave to what the consumer wants.”

Raymond shared some new data relative to the research project Simplot is working on in conjunction with the American Hereford Association. When adjusted for age, the Hereford-sired calves added 22 lb. of weaning weight when compared with straight Angus calves. Hereford-sired calves were higher birth weight by about 4 lb. Despite the higher birth weight, there was 2% less assisted pulls of the Hereford-sired calves. And really important was the

calf vigor. It was about 4% better with Hereford-sired calves than with straight Angus calves.

He explained that they have identified a problem — the Hereford calves are being gestated too long — and that problem is the reason why there are larger birth weights.

“Huge opportunity if we can focus on gestation length in the Hereford breed. I believe that’s why Angus has been able to find curve-bender bulls because they found cattle that had shorter gestation length, lighter birth weight and still have performance,” Raymond said.

Although he hasn’t found a significant difference in pregnancy rate between Hereford-cross and Angus at first breeding, he has noticed a difference in their fleshing ability.

“I believe what’s happening is that those cattle can hold body condition better, partly because of heterosis, partly because of the backfat that Hereford cattle can bring to the table,” Raymond said.

In 2013 Simplot retained 1.9% more Hereford-influenced 2007-born replacement heifers and 2.1% more Hereford-influenced 2008-born replacement heifers.

“So those Hereford-influenced females are staying in the herd longer,” Raymond said. “Why is that? Heterosis, fleshing ability, reproductive performance. If you say 2% isn’t a lot, out of our 30,000 that’s 600 head. That’s a lot of cattle.”

Raymond said he thinks the Hereford breed is doing a fair job on birth weight, and there are now Hereford bulls with calving ease. He has seen variations within the breed on carcass quality. Some cattle have better carcass quality than others, which is why he said we have to measure it and to select for it.

He closed with a list of traits that are critical for breeders to measure: mature height, mature weight, actual carcass data (ribeye area, marbling, backfat), calf vigor, gestation length, feed intake, genomics, fertility, phenotype (feet, legs, udders, pigment).

“If you can measure it and it’s heritable you can make progress,” Raymond said. “What’s going to drive progress for us in the future is measuring lots of phenotypes. We hope some of the genomics come along, but we have a lot of work to do collecting phenotypes. We need more data.”

He wrapped up his presentation with a picture of his young family. “At the end of the day,” he said, “this is why we do what we do. We are feeding someone’s family. And we are raising our kids in an industry that’s phenomenal at giving them experience and learning how to work. What a fantastic opportunity we have to raise our families while doing something great for the world.”

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