

Producer looks ahead with advanced technology

By Doug Rich, [High Plains Journal](#)

"Eyeballing" a set of calves and predicting their future performance takes a practiced eye and years of experience. Even then it is just guesswork. Deoxyribonucleic Acid (DNA) is changing how cattlemen look at their herd sires, donor cows, and calf crops. Advancements in DNA testing allow producers to look deep into the genetic makeup of an individual animal and make predictions about that animal's performance with absolute certainty. "They either have a certain gene or they don't," said Mike Hynek, owner of Goldrush Genetics, Guide Rock, Neb. "They are either passing one on or not. It is science, not a concept."



DNA has been compared to a set of blueprints because it contains the instructions needed to construct other components of cells, such as proteins and RNA molecules. This makes DNA tests a very useful selection tool for seed stock producers as well as commercial cattlemen. Hynek first became aware of DNA testing for tenderness and marbling around 1995 when he was organizing Gelbvieh tours in Nebraska. One of their stops was the Meat and Animal Research Center. "They were talking about shear force and finding genes that affected tenderness," Hynek said. "They thought it was something significant and I started paying attention to it back then."

Not long after that Hynek was at Denver's National Western Stock Show talking with cattlemen from South America. They told him cattlemen in the U.S. needed to get busy with DNA testing or be left behind. "Cattlemen from Brazil and Argentina were doing this before very many of us were doing it," Hynek said.



Hynek's first experience with DNA testing was with color coat testing in the early 1990s. He tested his entire herd for the homozygous black gene. Tests were \$100 an animal at that time. "We started making mating decisions then based on DNA results," Hynek said. "We could tell our customers on every animal if it was homozygous or heterozygous for black coat color." When more DNA tests became commercially available he tested his herd sires for the tenderness and marbling genes. Hynek discovered that he had one of only four Gelbviehs in the breed that was homozygous for the marbling gene.

That was in 2004. In 2005 he expanded the DNA testing to include his donor cows and a few of his best calf prospects. "We evolved and in 2006 we tested the entire calf crops as well as everything in our production sale," Hynek said. It was one of the first production sales in the industry completely DNA tested. In 2006, Hynek spent nearly \$13,000 testing 250 to 300 animals on his ranch. That sounds expensive but he figures those animals netted him an additional \$50,000 because they were DNA tested.

"I am constantly asking my customers, 'What do you want next year?' 'What do you want in five years?'" Hynek said. "Then I have to be ahead of them. It takes a long time to design those genetics."

Previously this meant adding Angus, Red Angus, and Balancer genetics to his herd. Hynek started his Gelbvieh herd in 1981 and by the early 1990s his regular customers were getting a lot of Gelbvieh females in their herds. "My customers who bought bulls were keeping females back and were getting too much Gelbvieh in their cow herds," Hynek said. To balance out their genetics he told his customers to use Angus bulls on their cows. "I hated to do that but it is what they needed to hear," Hynek said.

Gelbvieh cattle yield well so his customers needed something that would grade well to compliment those genetics. He suggested something with a lot of marbling on the Angus side. When Hynek had trouble locating exactly what his customers were looking for he began raising Angus cattle himself. Hynek developed a carcass herd of Angus that would compliment the Gelbvieh genetics through artificial insemination.

A similar set of events led to Hynek starting a Red Angus herd in 1995. "We built the Angus herd 100 percent out of AI," Hynek said. "We tried to use the best carcass sires we could find. We still use high marbling bulls and have all along."

Now more and more of his customers are requesting DNA information all of the time. A customer in Kansas markets his own beef through a guaranteed tender program and they want to buy bulls that have all of the tenderness genes. Another customer in California has a grocery store chain and markets all of his beef. He is trying to find the bulls with all of the marbling and tenderness genes.

He has progressive customers that are reading about packing plants installing systems to immediately identify carcasses that have the tenderness gene and realizing they need to get their herd in order with the eight genes. Even though they may not be marketing them that way they can see it coming. "Some customers just want to know that I understand it and that I am breeding the best I can and that their bulls will have it," Hynek said. "We try to educate our customers on what the industry is doing and how to understand it," Hynek said. "We offer educational seminars at our sales and I try to send out educational information with our fliers to customers and prospective customers."



When Hynek started DNA testing for color coat he used a company called IMI Global. As he evolved into testing for tenderness and marbling he sent samples to GeneSTAR. Now Hynek has expanded the DNA profile he is interested in and has switched to Igenity. He is looking at animal identity, breed, tenderness, color coat, fat thickness, ribeye area, carcass weight, marbling, and polled. A BVD-PI test is available but he has not used it yet. "I am sure we are just in the infancy of this technology," Hynek said. "I won't buy semen from a bull unless I have the DNA results," Hynek said. "The Angus bulls

we are using have to have all of the tenderness genes or I am not using them." "Buying a bull without knowing the DNA is like buying a truck without knowing what kind of engine it has," Hynek said.