

Japanese Cattle
The Benefits
By Heather Smith-Thomas

Wagyu and Akaushi are Japanese cattle that are starting to make a difference in how Americans think about meat. A growing number of U.S. producers are incorporating some of these genetics into their beef herds to improve carcass quality and consumer eating experience.

The word Wagyu simply means Japanese cow, but in the U.S. has come to mean a certain type of black Japanese cattle. The word Akaushi means red cow in Japanese. The Akaushi was introduced to the U.S. in 1994 when Dr. Antonio Calles (Washington State University) imported 8 cows and 3 bulls to the U.S. and used them for embryo transfers to increase their numbers. Today HeartBrand Beef, headquartered at Harwood, Texas owns many of these cattle and sells or leases them to other breeders. The American Akaushi Association was started in 2010.

The Akaushi, like the American Wagyu, is known for consistent, tender, flavorful, juicy, highly marbled meat, but tend to be larger than Wagyu. According to Bubba Bain (HeartBrand), the calves have good weaning weight, yearling weight, efficiency in the feed yard, grade and yield well on carcasses. Akaushi cattle perform well for the cow-calf producer, the feeder and packer. Carcasses on fullblood cattle are highly marbled and are usually prime or prime-plus. There is also good data on half-blood carcasses; Akaushi cattle cross extremely well with all breeds and can double the grade and improve the yield on the offspring of any breed, says Bain.

Matt Cherni, Ranchester, Wyoming (who was veterinarian for the Padlock Ranch near Sheridan, Wyoming for many years), has been working with Akaushi-cross cattle, but came across them by accident. “Some years back when I was writing articles for the Western Beef Producer, a lady in Texas—Marie Wood--contacted me after she read one of the articles. She told me she had some really good beef that needed to become more widely known. She didn’t call them Akaushi; at that point they were generally called the Japanese Brown—to differentiate them from Wagyu. The Wagyu term can actually refer to all of those breeds which include the Japanese black and Japanese Brown,” he says.

“I had seen Wagyu cattle because my wife and I had been to AgriBeef (Snake River Farms) when they were leasing the Lazy TF at Battle Mountain, Nevada that had some Wagyu bulls, and those bulls were ugly. They don’t look very pretty to American cattlemen. Marie asked if I had ever tried Wagyu meat and I said no, they are too ugly! She said that part was true, but the beef was great. So she had her foreman load up some coolers of beef and brought them to Dayton, Wyoming. We had a barbeque in the park for interested ranchers. At that picnic, other than at a Ruth Chris Restaurant, that was the best beef I’d ever eaten in my life! The meat was from the offspring of Japanese Brown crossed with a Devon cow. The beef from that calf was only low choice grade, but it was phenomenal,” says Cherni.

“So I made some calls and contacted Dr. Jerry Reeves at Washington State University. We were looking for a breed that we could mate to the Padlock’s three-breed cross heifers to reduce calving problems so we wouldn’t have to run calving sheds anymore. We started out with a small group—about 1000 heifers, which for the Padlock was a small bunch—bred to bulls that came from Jerry Pittinger at Ellensburg,

Washington. Jerry had been a benefactor to the WSU Department of Animal Science. They had asked Jerry if he would be interested in raising Wagyu cattle on his ranch. He went to Japan and helped pick them,” says Cherni.

“Jerry actually had some of the Japanese Browns as well as the black Wagyu. He told us he didn’t recommend the red ones for heifers, however, because he couldn’t guarantee their calving ease. As a breed, Akaushi are not necessarily calving ease cattle unless you select specific sires within the breed,” explains Cherni.

“The Japanese black, on the other hand, tend to be very easy calving because of their conformation. They are streamlined and don’t have much rear end. We started using them on heifers at the Padlock in 1994. That ranch still uses them, and are now working with Snake River Farms, breeding all their heifers to Japanese black,” he says.

“Jerry Pittinger offered our little ranch at Ranchester the opportunity to buy some of these cattle in 2003. So we became seedstock producers for purebred Japanese black. We liked the cattle, but we fall calve in September-October and some of those calves are so dainty at birth that if they got cold and wet they didn’t do well,” says Cherni.

“We attended the Association meeting at Reno about 6 years ago and a geneticist from WSU was there. She’d done a lot of DNA work on the current Japanese cattle and found that they were 36% inbred, which is very high. So we decided to take a look at the other Japanese breed—the Akaushi. We went to Harwood, Texas and met with Bubba Bain, and got into their program to use their cattle. We could keep all our females and do whatever we wanted with them, but HeartBrand wanted the male cattle. So we agreed to that and sent them all our crossbred Japanese black and Japanese Brown steers—which were fed out at Bovina, Texas. Those steers were 100% USDA prime,” says Cherni.

“I feel that these cattle have great potential. The Japanese Brown, now called Akaushi, have a huge potential that hasn’t been tapped—to become crossbred mother cows. They solve the problems the blacks have. The black Wagyu doesn’t have much milk and has low weaning weights. We wanted to improve our own program, so we have used the crossbred Akaushi heifers and they are terrific,” he says.

As cows, the F1 black-brown cross have much better milk production than the straight blacks. “We don’t have a big number of them yet, but are very impressed. We have sent all the steers to be fed in Texas. From what I’ve seen, they really fill the holes that the blacks have, but the Akaushi is not necessarily good for calving ease,” he says.

IMPROVING BEEF QUALITY – The overall beef quality in U.S. cattle is very low, according to the 2011 Beef Quality Audit. “If a carcass makes Prime, 99% of the people who consume it would choose to buy that beef again. If a carcass makes it into the upper 2/3 of Choice, 92% percent of consumers would want it again. But if the beef quality is Average or Low Choice, acceptance drops significantly. By the time it’s down to Select, only 30% of the people tasting it will buy that product again. So we need to improve the quality of beef in this country,” says Cherni.

“This is one thing that disappoints me in the Beef Quality Assurance program. The focus has been mainly on how we handle the cattle and where we give injections so we don’t end up with blemishes or needles in the meat. We’ve done all this, but have not done anything toward improving the actual meat quality!” he says.

“Many cattle feeders also believe in using Zilpaterol (a beta2 agonist utilized to increase feed efficiency and finish weight, typically fed during the last 6 weeks of life)—

the drug that was the more potent of the two that were available. The other is Ractopamine, and now that Zilpaterol is off the market, one of the drug companies is coming out with a new version of Ractopamine,” Cherni says.

“But those drugs have a tendency to reduce marbling and increase toughness in the meat. This is not what we want, if we are trying to please the consumer. The feedlot manager likes to use these drugs, however, because cattle put on more pounds of lean meat during the last month of finishing, rather than fat. But the fat in the meat is where the quality comes from! The packers also like these carcasses because it really cuts down on yield grade 4s.” But the end product is tougher and less tasty.

“Doc Hatfield made a statement once, at a meeting I put on that was called the Muscle to Meat Seminar. Doc said there are only two groups of people that care about quality in the beef industry—the primary producer (who raises the calf) and the consumer. Everybody else is just a trucker; they just own it for a period of time and do not care; they just want their piece of the profit. Most ranchers don’t know how their cattle perform, however, because once they leave the ranch they have no idea. To me, as a producer, I feel we need to look into ways of changing this,” says Cherni.

“It is difficult to do, however, in our big commodity system. At a big packing plant, killing up to 7000 head per day, there is no time for checking anything. In my mind, this works to defeat quality. Many producers have seen a decline in quality of beef, over what it was 30 years ago or more,” he says.

“We became geared to increasing production. Many people who are interested in ranch sustainability are now promoting all the tools we can use to do that, like Zilpaterol, implants, etc. Currently the pharmaceutical companies are buying up most of the DNA testing companies. Now the 70,000 chip is owned by Zoetis, for instance. Subliminally they are starting to plant the seed in our minds that the only way to improve meat quality is for everyone to test all of their cattle for DNA that affects certain traits.”

Cherni did his Masters degree in animal breeding at Laramie before he went to vet school at CSU. “I am very familiar with what testing does, but I wonder if testing really helps in the long run, compared to what is tried and true—which is crossbreeding. Our experience at the Padlock Ranch was that not only did we have a higher number of smaller calves at birth (fewer calving problems) when we started using Wagyu, but also increased the weaning rate. Even though the individual weaning weight was lower, the number of live calves was higher and we had more pounds of beef to sell. We actually increased the weaning weight per cow exposed by 40 pounds per cow just because more calves survived,” he explains.

ADVANTAGES OF THE AKAUSHI - “Going on from that experience, I think Akaushi can add the next step. People can use this Japanese breed on more of their older cows (that won’t have calving problems) and keep some of those crossbred heifers as replacement females. These crossbreds will possess a huge amount of heterosis for breeding purposes.” The crossbred is always the best cow you will ever have, regarding disease resistance, fertility, longevity and pounds of calf produced in her lifetime.

“If you mate that crossbred Akaushi cow back to the black, so the calf would be a $\frac{3}{4}$ blood Japanese, you could aim toward the highest meat grades. The Japanese grading system is different from ours; it basically starts where the American system stops and

goes on up from there. It goes from equivalent to USDA Prime-minus up to the Japanese BMS 12, which is all marbling (but tastes delicious).”

The fatty acids in this meat are part of the reason it is tasty and yet very healthy. “It all depends on what the specific fatty acid profile is in that animal. We can’t just lump it all together and call it saturated fat. With these Japanese-type cattle we can produce beef that has about 25% saturated fat and the rest is poly-unsaturated or mono-unsaturated (the same kind of fat in olive oil). These are the healthy fats,” he says.

Not all meat is created equal. “A lot of it is how we manage and feed the cattle (grass versus grain, etc.) but part of it is genetic. The Japanese cattle have a higher tendency to produce the mono-unsaturated fats. I think they provide an untapped potential to reverse the decline in per capita beef consumption in the U.S. These animals bring a much higher quality to the table, and most people who try it become addicted to this meat,” says Cherni.

He sells some animals that he doesn’t want to use as breeding stock, and has a waiting list of people who want to buy the meat. “We feed these cattle for them and they don’t even care what the cost is; they just want to be on our list for next time. They tell us this meat is so good that they don’t want to buy commodity beef ever again. To me, this is the solution for our beef industry,” he says.

“The Akaushi provide a good breeding potential—to raise bigger cattle (than the Japanese black) that grow faster and still marble.” They are the happy medium, and producers can use these cattle to cross with herds they already have. This will guarantee higher quality carcasses in the steers they produce.

“We convinced one large producer to use Wagyu bulls in the mid 1990’s. His first set of steers fed out at 65% Prime, and average yield grade was 1.69. Most cattle that grade Prime will do so only after they get up to a yield grade of 3.6 to 4.2. But the Japanese cattle tend to put more of their stored fat into marbling rather than subcutaneous fat (the waste fat that has to be cut off a carcass).” This is also why these cattle look skinny compared to the typical fat American beef animal, but taste better.

“A good article came out of the Meat Animal Research Center (MARC, at Clay Center) about 15 years ago. They included Wagyu F1 crosses in a research program and found that these cattle do not gain fast, but when they do finish they produce more high quality carcasses with a lower yield grade. Thus they become what I call grid busters. These carcasses can get all of the premiums and have no discount,” explains Cherni.

He recently checked the USDA market news service reporting the Prime-Choice spread, which is currently up to \$27 per hundred, over Choice. The Choice-Select spread was around \$13 per hundred. “So if you have an animal that will grade even low choice, the carcass is worth \$13 per hundred more than a Select. Then you add the possible \$27 premium of Prime over Choice and end up with a \$40 spread between that and Select, on 800 pounds of carcass--nearly \$400 per head more for that carcass,” says Cherni.

“If you can produce those carcasses at a lower cost of production, which is what the Padlock was able to do (by not having to run calving sheds anymore), this greatly increases your profit. We calculated that it cost us about \$50 per head to calve heifers, with the labor involved—until we used Wagyu genetics for easy calving. There is a lot of potential profit that Japanese cattle can help you pick up, without adding a lot of costs. You don’t have to pay \$70 to get a 70,000 chip DNA test. Just create a crossbred!”

“Japanese cattle have huge potential, but acceptance is still an issue. I asked one rancher (whose family has been here since 1882) if he would consider using these cattle and he said no. He didn’t like them because they are too ugly. In spite of the fact he could make more money with them, he didn’t want any.” The challenge is to get beyond this perception because many ranchers are not interested—until they eat the meat or see the profit potential.

“The past 2 years, with cattle prices so high, it’s harder to talk to ranchers about doing things that would improve profits, because prices have never been better. But looking toward the future, we need to improve meat quality so more people will want it.” Over the long term, this is our best solution.

CROSSBREEDING IN OREGON - Scott Madison, a rancher north of Bend, Oregon, uses Akaushi bulls on his Simmental cattle. “A big benefit for me is that there is a good market for the calves. You don’t have to find a buyer or take them to a saleyard. The HeartBrand people pay a premium for the calves, at more than market price. Using these bulls on Simmental cows, we get a smaller calf at birth, which helps with calving ease. We have some of the older Simmental bloodlines, with heavy birthweights. So we breed those cows to Akaushi bulls and reduce the birthweight by 20 to 25 pounds,” he says.

“We breed all our yearling heifers to these bulls. It’s not perfect; we were hoping for more calving ease from the Akaushi bulls for our heifer program, but I think it is possible. We are getting some small calves with this breeding but also a few ‘normal’ size calves, which are bigger than what you want for a 2-year-old. Now, however, we are DNA-testing every bull and every calf, so we will know the sires. We can figure out which bulls are consistent at siring smaller calves,” he says.

The hybrid vigor is phenomenal. “When the Akaushi calves hit the ground they are up and sucking before the cow can get them dried off,” he says. This really increases survivability. “We noticed this vigor in the baby calves. They have a strong desire to live and get going quickly in cold weather. They can be born out in the pasture at 5 degrees and be all taken care of and mothered up, nursed and happy. With some of the fullblood Simmental a big calf will just lie there and won’t get up soon enough to nurse before he gets too cold,” Madison says.

“We used to breed Angus to our heifers, and get some hybrid vigor but we also have some Angus genetics in this herd already. The main reason we went away from Angus is that I already have some Angus recessive defective traits in my herd because of Angus bulls I used in the past. The Akaushi cattle don’t have any genetic defects like that.” They don’t share the same problems, so the crossbred calves are free of defects.

FEEDLOT STUDY - Eric Dorr, Kemin Animal Nutrition (a nutrition company based in Des Moines, Iowa), worked with a group of feedlot cattle in Idaho and presented the results of his study at the annual Akaushi convention in November, 2014. His company manufactures ingredients for feed mills (everything from mold inhibitors and antioxidants to high-tech ingredients like rumen-protective amino acids for dairy nutrition), and organic trace minerals such as the only chromium approved for use in cattle.

His recent research for HeartBrand compared a group of Akaushi-sired calves raised in an Oregon-Idaho ranch environment with a group of their herdmates sired by traditional breed bulls. “I was impressed with the Akaushi-cross calves’ notable increase

in carcass quality because I didn't think it would be that much. I had heard that these cattle perform a lot better but I thought it was too good to be true," says Dorr.

"Seeing is believing. I found out that they do it. We had one load of Akaushi cross cattle that was 38% Prime. The genetics for marbling are certainly there."

These cattle produce heart-healthy meat in spite of the excessive marbling, so they provide the best of both worlds. "Even if you sacrifice a little in growth, you more than pick up the difference in carcass quality and customer acceptance—and a heart-healthy product that's worth a lot of money. It's a really good thing for our industry. If more producers would do this they could add a lot of quality to their market steers."

"The ranchers I've been working with initially thought it was a lot of work because they had to do DNA tests and were locked into selling the cattle to HeartBrand. But I told them that if they'd just do this for a few years (to get through their contract on the bull they got from HeartBrand) and have 3 or 4 years of carcass data showing that these cattle grade more than 30% Prime, every feedyard in the Northwest would be lined up to buy them. Most producers leave a lot of money on the table by not doing something like this," explains Dorr. By participating in this program, ranchers have access to the genetics, and access to the data.

A number of people in the beef industry and agricultural research are trying to find ways to improve beef quality. A project at West Texas A&M is trying to clone Prime yield grade 1 carcasses, for instance. "Their data shows that in the industry as a whole, we only get about 3 of those carcasses for every 10,000 that go through the plant. A Tyson plant might see 1 to 2 per day if they are killing 5000-6000 head daily, whereas in our little group of cattle we had 3 out of 650 head," he says. The Akaushi can stack the odds a lot better for obtaining this kind of quality.

"The marbling gene is passed on to the crossbred animal. They performed well on the rail. One set of cattle made \$330 per head in the feed yard," says Dorr. There are a growing number of producers in the west and northwest producing and using half-blood Akaushi cattle.