Clone

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The team soon formed, found a steer carcass and a cow carcass with the requisite grading qualities, took tissue samples and turned them over to a private Texas company, ViaGen, which specializes in cloning cattle, horses, sheep, goats, pigs and even cats and dogs.

ViaGen created a bull, named Alpha, from the steer carcass, and three heifers — Gamma One, Gamma Two and Gamma Three — from the cow carcass.

Artificial insemination of the Gammas with semen from Alpha has resulted in 13 calves, the first bovine offspring of two cloned parents.

Seven of the offspring, all steers, were raised in a conventional manner, including finishing time at a grain feedlot, and slaughtered. Lawrence said the results are promising, especially given the small sample size. The offspring tended to produce better grade beef than average, and yield grades were ones and twos. The carcasses had 9 percent larger ribeye steaks than average and 45 percent more marbling, the desirable white specks of intramuscular fat. They had 16 percent less "trim" fat, the waste fat that doesn't improve taste. The work is continuing.

The idea, of course, is that higher grade beef — raised the same way as regular cattle — would bring a greater return to the rancher.

Lawrence said beef quality is an afterthought in most cattle breeding operations, and West Texas A&M is turning that around.

"It's kind of a meat science perspective on animal breeding, beginning with the end," he said.

The doubters

For critics and some in the industry, however, the West Texas work is a non-starter.

"My first take is that it's a lot of work for little gain," said Jaydee Hanson, senior policy analyst with the Center for Food Safety in Washington, D.C.

Hanson said traditional cattle breeders "keep a real close eye on the genetics of their herd" and produce good quality beef for lower cost than cloning.

He said it's unclear whether the West Texas A&M animals have encountered problems reported in other clones, such as Large Offspring Syndrome that can make birthing difficult. Achieving the good marbling results with grass fed cattle, without the expense of finishing them at a feedlot, might be of more benefit to producers, he said.

"At the end of the day, it's whether a farmer can produce a high-quality product that the customer wants, at a price that will keep them in business," Hanson said.

How to clone

Cloning has been around since 1996, when Scottish researchers announced the arrival of Dolly the sheep. The discovery touched off speculation about future uses of the technology, but since then cloning has primarily been confined to livestock breeding. It's used, for example, to build dairy herds or to pass along the genetics of prized rodeo bucking bulls.

A cloned animal is not genetically modified. Rather, it is a duplicate of the donor animal. Advocates often refer to a clone as an identical twin born later. Lawrence, the West Texas A&M meat scientist, calls the result "a very fancy Xerox copy, if you will."

To achieve it, scientists take an egg from a female animal and replace its gene-containing nucleus with the nucleus of a cell from the animal they want to copy. The egg cell forms an embryo, which is implanted in the uterus of a host female. The surrogate carries the pregnancy to term and delivers a calf.

ViaGen, the Texas company, charges $21,000 to clone a female and $23,000 to clone a bull.

After several years of study, the U.S. Food and Drug Administration ruled in January 2008 that meat or milk from cloned animals or from their offspring is safe for human consumption and didn't require special labeling. The approval applied to cattle, pigs and goats but not sheep, because there wasn't enough information available about them, the FDA said.

Since the FDA's decision, however, cloning animals for food hasn't taken hold.

Will Homer, chief operations officer for Painted Hills Natural Beef in Fossil, Ore., said his company decided several years ago not to get involved with cloned livestock.

Even though cloned animals are not genetically modified, "You're somewhat playing with Mother Nature," he said. "There's not going to be a very warm reception from the consumer for a cloned animal.

Courtesy of Carman Ranch

Cory Carman, who raises beef cattle in Northeastern Oregon, said her customers are more interested in livestock handling practices, nutritional profile and flavor than the fat marbling sought by cattle cloners.

To attract consumers, beef producers should try a little grass-fed tenderness

By ERIC MORTENSON
Capital Press

What are grocery shoppers looking for when they examine the offerings in the meat display?

What they're most likely to see is a USDA grade — prime, choice or select — that is based on the amount of intramuscular fat marbling. The more marbling, the higher the grade.

But some producers and university researchers believe the USDA grading system is out of date, and that consumers are considering other factors.

William F. "Frank" Hendrix, a meat scientist at Washington State University, said a grading standard for beef tenderness may come about in the next five years.

"As a customer, I want a tender piece of beef and I want it really flavorful," he said. "I don't want very much fat."

Hendrix puts his taste buds where his mouth is. He's part of a Washington State team that identified DNA markers for beef tenderness. By taking a hair, blood or tissue sample, researchers can predict tenderness, and breed for that trait. The research showed tenderness is an inherited trait.

To clone cattle in an attempt to duplicate a prime, or fat-marbled, carcass — as West Texas A&M University is doing — doesn't interest Hendrix.

"I would scratch my head about it," he said. "Not to criticize another scientist's work, but it would not be a goal of mine. Beef quality work is turning a different direction."

A 2009 taste test conducted by Oregon State University's Food Innovation Center in Portland shed some light on consumers' preferences. More than 100 panelists compared hamburgers made from grass-fed cattle raised at Carman Ranch in Northeast Oregon's Wallowa County to hamburgers made from ground beef purchased at a Fred Meyer store.

William "Frank" Hendrix

The test, run by OSU sensory specialist Ann Colonna, showed that 54 percent of participants preferred the grass-fed patty, while 44 percent preferred the conventional hamburgers. Two percent saw no difference.

A greater disparity revealed itself in perceptions. Overwhelming majorities said grass-fed beef was more healthy, more humane, better for the environment, flavorful and safe.

Cory Carman, the ranch owner, said the definition of quality is one of the biggest issues in agriculture today.

"If quality is defined by the processors or distributors, it's often uniformity, shelf life, and other attributes that make money for the middle people," Carman said in an email.

But consumers are looking at factors such as flavor, nutrition and animal welfare practices, she said.

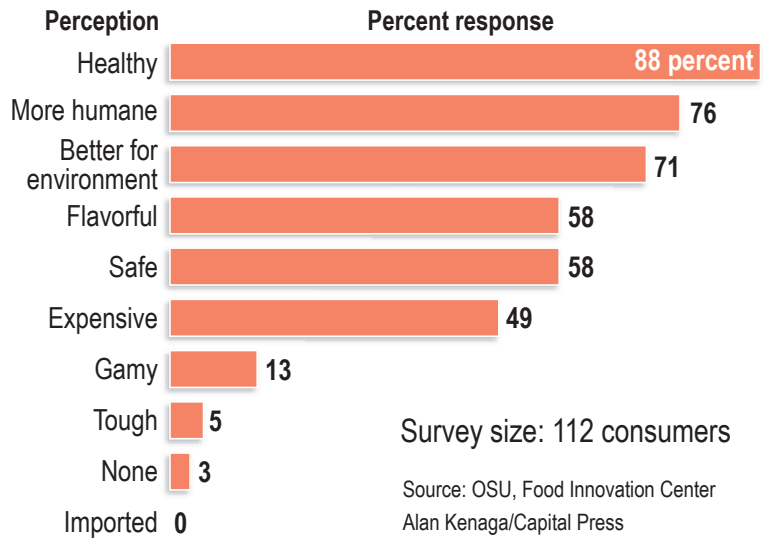
"These things aren't visually apparent in the same way (fat) marbling is," she wrote, "but marbling is only a relatively recent metric of quality and only delivers one attribute in what is a very complex product."

Carman said she will not invest in technology that isn't directly responsive to her customers' priorities and doesn't contribute to the ecological health of her land.

Beef taste test results

Oregon State University's Food Innovation Center asked participants to compare hamburgers made from grass-fed beef with those made from conventional beef. Taste test results show panelists believe grass-fed tastes better and is more healthy.

Question: What are your perceptions of grass-fed beef?



"That is the stone wall right there that they need to be aware of," Homer said of the West Texas researchers. "The consumer would just blow their top."

Homer said the volatile economics of the cattle industry in recent years, with falling prices and rising costs, offset herd improvements that might come from cloning.

Painted Hills, formed by seven ranching families, walks a tight market line. It delivers grain-finished cattle to a large-scale processor in Pasco, Wash., and takes grass-fed cattle to a specialty processor, Dayton Natural Meats in Dayton, Ore.

In addition to processing Painted Hills' grass-fed beef, the Dayton facility processes hogs that are non-GMO verified, and organic turkeys and chickens. The facility processes meat for New Seasons markets, a Portland-based chain that caters to customers who prefer and are willing to pay more for locally grown, organic or sustainable food.

"We would stay as far away from clones as possible," said Reg Keddie, general manager of Dayton Natural Meats.

Keddie said consumers already struggle to understand where their food comes from and would reject beef that had its "inception in a petri dish." The Texas researchers, he said, are most likely aiming at the conventional meat companies that process thousands of cows a day.

Cory Carman, a Northeast Oregon cattle rancher who has carved out a niche selling grass-fed beef to high-end markets in Portland, said her customers are primarily interested in Carman Ranch's practices and the nutritional profile and flavor of its meat. They don't ask about yield and quality grade, she said.

"If our primary request was for more marbling in our meat, we might look into the ethics behind cloning or research the technology, but no one asks for that," Carman said in an email. "Marbling isn't the primary driver of meat quality for us."

Jack Field, executive vice president of the Washington Cattlemen's Association, said cloning may not be worth the risk of consumer backlash. As with GMOs, he said, science says it's safe and the benefits are apparent, but social reaction is such that "all of a sudden, the science goes out the window."

In addition, producers can improve their herds with technical tools already available, Field said. Genetic testing at $18 to $20 a head can help producers select bulls and heifers to breed for beef tenderness, yield and other traits, he said.

"You can move your herd to whatever your consumer is asking for," Field said.

Lawrence, the West Texas A&M meat scientist, nonetheless believes in the research and what it could mean for herd improvement. Among other things, he thinks the work may uncover another trait potential.

"We may be selecting for better immune systems," he said. "For an animal to be Prime and Yield Grade One simultaneously, it's probably had no or very few bad days in its life. So are we selecting for (good health)?

"We're moving the curve to higher quality and higher yield at the same time," he said. "I think it's very viable for the beef industry to find traits that are desirable and to propagate those."

Wolf

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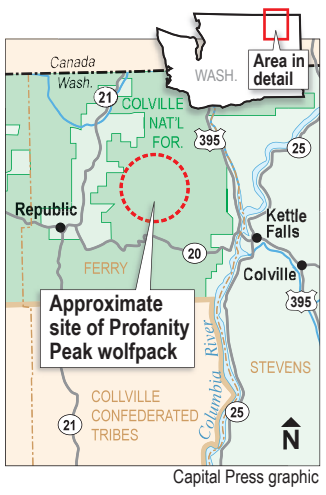
"We won't put anybody on the ground until we feel we absolutely have to," Commissioner Mike Blankenship said. "We'll see how it goes."

Wolves are a state-protected species. If the county moves to shoot wolves, it will test the state's jurisdiction over wildlife.

"I would prefer to avoid that," Blankenship said.

He said WDFW's official count of cattle killed and injured by wolves understates the losses suffered by ranchers.

"An operator has been losing an animal a day since their animals were put on the range," he said. "Should Fish and Wildlife fail to, we're prepared to step up and finish that job."



Capital Press graphic

The state has never removed an entire pack. In 2012, WDFW announced plans to remove the Wedge Pack in Stevens County. Wildlife managers shot seven wolves, but two wolves survived.

WDFW said in a press release that removing the rest of the Profanity Peak pack will be hard because the wolves have retreated to rugged timberlands in the Kettle River Range.

Amaroq Weiss of the Center for Biological Diversity said the county shouldn't shoot wolves.

"Thumbing your nose at state law doesn't engender a lot of respect from the rest of the public about your attitudes of living with wildlife," she said. "This isn't the 1850s."

Stevens County rancher Scott Nielsen, vice president of the Cattle Producers of Washington, said the county has a duty to respond if the state fails.

"I'm sure they'll get portrayed as a bunch of rednecks on the westside (of Washington) if they act, but they've been forced into it," he said.

According to WDFW policy, the department considers culling a pack after four confirmed depredations. Ranchers are obligated to take measures to prevent attacks.

Four conservation groups that helped shape the policy issued a statement Wednesday calling the shooting of wolves "deeply regrettable," but that WDFW was following a protocol agreed to by the conservation groups and other organizations.

Coba

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In a state with such a wide variety of crops and producers, that's important, he said.

He called on Gov. Kate Brown to consult with the people whose livelihoods depend on agriculture before choosing the next ODA director. "To me it's of vital importance to make sure producer voices are heard," he said.

Coba's appointment is effective Oct. 1 but requires confirmation by the Oregon Senate in September, according to a news release from the Governor's Office.

Coba, who has been agriculture director since 2003, started working in state government in 1985.

Kristin Grainger, a spokeswoman for the governor, said Coba, a Pendleton native, is a "proven leader" and "committed to excellence" in state government.

"Her roots in rural Oregon and Eastern Oregon were influential as well," Grainger said.

Grainger said the state's budget development process will likely be a focal point for Coba in her new position.

The Department of Agriculture's deputy director, Lisa Charpilloz Hanson, will serve as interim director starting Oct. 1, until a successor to Coba is appointed.