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**NEWS**

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## DNA can help determine cattle potential

Every steer in a feedlot is different. To get the most out of each one, a producer would have to individualize each animal's finished weight, diet and even marketing method.

It sounds like a labor nightmare, but it may be moving closer to feasibility. Cargill's Ben Brophy told attendees at last fall's Feeding Quality Forums that DNA testing could, in a sense, make that happen. The meetings were co-sponsored by Pfizer, Purina Mills, *Feedlot* magazine and Certified Angus Beef LLC (CAB).

Seedstock and commercial ranchers can apply the technology on their operations, too.

"The animal management application of DNA in the feedyard is that we use it to determine genetic potential," said Brophy, Cargill's beef genomics commercialization manager. The technology, developed in partnership with MMI Genomics, is in its final testing stage in a Texas feedyard. "We're smoothing out the logistics," Brophy said, before making it available to the wider beef industry.

"We sort into outcome groups based on genetic potential," he said. "That's an augmented sort, based on a number of other things that we already do."

From there, cattle are managed in different groups according to their DNA results for marbling ability and average daily gain. Tenderness may be included in the future if it proves to be an economically viable marketing attribute.

"That means different implants, beta-agonists and projected end points, then marketing where we'll get the best returns," Brophy said. "Our view is to use growth-enhancing technology aggressively on the right cattle. Those cattle that just don't have a prayer to grade well. At the same time, we'll use the proper management to efficiently extract optimum grading from the cattle that can produce premium quality, like CAB."

Market signals help determine which cattle fit which strategies.

"We operate feedlots and plants. We make food for people to eat, but we have challenges in that business," he said. "Our supply is at one place and the market wants something over here. We haven't

figured out very well, economically, efficiently, how to get there. We think this is a significant tool to allow us to create and supply what the marketplaces is demanding.”

Currently, with blood samples taken as cattle enter the yard, results are delivered in one to two weeks. The cattle are then sorted at reimplant time.

“With some of the other benefits of delaying initial implants, we may vaccinate cattle when they arrive, but not give them all their final home pen assignments and implants for another 30 days,” Brophy said.

He noted that’s one of the challenges with DNA testing.

“The complexity issue is huge. With the labor issues we face at the yards and outside environments we work in, there’s a tremendous difference in the ability of the facilities and people to get the test done,” Brophy said.

The monetary incentive should be worth the extra work.

“While not final, the cost to perform the DNA testing in the feedlot will be approximately \$10 per head. The benefit is somewhere between the mid-teens to mid-\$20s,” he said.

Application extends beyond the feedyard. Purebred breeders might use DNA as extra selection information to be used in tandem with expected progeny differences (EPDs). Bull buyers might find value for the same reasons.

“If you’re selling calves, it’s additional marketing support to verify claims,” Brophy said. “You’re stacking that information and giving that buyer more confidence and predictability in what he’s getting.”

A producer retaining ownership might test to find the bottom cattle, send them to a salebarn and feed the rest, he suggested.

Identifying quality cattle earlier in the pipeline will be the technology’s true contribution to the industry.

“It’s pretty clear if you look at what we’ve been through and what we’re experiencing today, there’s a lot of concern with carcass quality,” Brophy said.

“New growth-enhancing technologies are largely coming at the expense of meat quality and consumer demand. We must do a better job of balancing growth and cost management with delivering the products the marketplace demands,” he said. “We believe this technology will help us accomplish that.”

Online copies of the presentations can be found at

[http://www.cabpartners.com/events/past\\_events/index.php](http://www.cabpartners.com/events/past_events/index.php)

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