

Tech Tools

How to utilize technology to drive efficiency and profitability.

by **Grace Vehige**

“If we are going to be competitive as an industry, we are going to have to embrace technology and see how we can implement it into our operations,” said a session commentator at the annual Cattlemen’s Industry Convention & National Cattlemen’s Beef Association (NCBA) Tradeshow this past February. Emerging tech tools was one of many hot topics discussed at the annual Cattlemen’s College, and covered applications in health and heat detection, feed efficiency measurements and self-assessment on sustainability practices.

Tag, track and trace

Melissa Brandow founded HerdDogg nearly five years ago with a vision to build a platform to support pasture-raised animals. The company’s mission is to build value and profits around every animal you raise, something all cattlemen can get behind. HerdDogg created a Bluetooth system of tags that are able to generate identification and health information alike.

“We really like the idea of being able to bring the technology to the animal as opposed to bringing the animal to the technology,” Brandow says.

Similar to how a Fitbit tracks health and fitness for humans, the HerdDogg health tag is able to generate estrous detection, illness, and animal actions or motions, which help develop behavioral-based information. All of this produced data has opened up many new research opportunities.

In terms of tracking animals, the tags are not GPS based because, as Brandow explained, the GPS generates an incredible amount of energy consumption, which would wear out the tags faster. Because it is not necessary to always know the exact location of your animal at all times, HerdDogg developed a tag reader that utilizes GPS and generates data when an animal comes within 150 feet of the device.

Aside from tracking, however, there is the concept of tracing. HerdDogg not only makes data available for you but the tags transmit the data into other sectors, such as to your vendors or your backgrounders. The DoggBone, which is the tag reader, helps detect and record data on the animal’s health and activity level. This information proves useful at any point in the production process.

According to Brandow, HerdDogg has centered its focus on providing a solution for the problem in the cattle industry – the decline in premiums for producers. In order to fix this, Brandow says a possible solution is demonstrating improved quality. Some of the additional systems HerdDogg offers include the ARK, which contains the animal data records; the Grange, which is an app developed to showcase livestock products and services; and the Digital Inspector, which acts as an auditor and helps you identify programs to utilize which you may not have considered. These systems integrate the technology of Tru-Test with radio-frequency identification (RFID), Alltech readers, scale technology and more.

“By leveraging the data that you’re generating as producers, we can help you not only improve your profits, but we can also help you get data access to information that you desire,” Brandow concludes.

If you are interested in learning more about HerdDogg and how it could fit your operation, visit HerdDogg.com.

Defining efficiency

Mark Nelson, the director of industry relations for GrowSafe North America, focused the majority of his presentation on the importance of efficiency in the cattle industry and how to better obtain it.

“If we tell the story that we can produce [beef] more efficiently than we did last year or the year before, that really interests consumers,” Nelson says. “So, there’s really a lot of marketability and a future for us around developing sustainability around efficiency beyond just being more profitable.”

GrowSafe provides feasible access to equipment and technology for producers, individuals in academia and researchers in order to test cattle for efficiency. Nelson explains that despite a cowboy’s eye for cattle, an individual cannot see efficiency; it must be measured.

Trait selecting for efficiency can be done by examining Residual Feed Intake (RFI), Residual Average Daily Gain or feed to gain. In terms of what GrowSafe tracks, the system mostly uses RFI because it is a measure of feed efficiency calculated as a difference between an animal’s actual intake, its expected intake for a given body size and its growth rate. When it comes to scoring, a low RFI is favorable because it means you are using less feed to get more gain. On the other hand, a high RFI correlates with a more inefficient animal. Nelson says you can select for RFI without negatively affecting any other traits and allows for your usual trait selection to go unchanged.

GrowSafe is able to collect this efficiency data through a feed intake system. Animals are given ID tags and every time an animal places its head in a feeding slot and bunk, a reader collects data. When it comes to making trait selections for your herd, Nelson made a point to highlight the benefits for selecting for low RFI animals. He says that if you do the math, efficiency is one of the most important things that you can do for your operation.

“So, with selecting for low RFI animals, you can have a reduction of overall feed intake by up to 12%, while maintaining the same level of production,” Nelson says. “You can say ‘I can use efficiency selection to either lower my feed costs’ or I can say, ‘I can run more cows on the same acre.’”

Some of the researched improvements that were found as a result of increased efficiency include:

- 9-10%** Reduction in maintenance requirements to the herd
- 9-15%** Improvements in feed conversion rates of calves
- 17%** Reduction of manure production
- 30%** Reduction of greenhouse gas emissions, such as methane

Nelson concluded his presentation by explaining how efficiency will be increasingly important when you look into the future – more efficient the operation, the more likely of survival.

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Self-assessing your operation

The final presenter, Chad Ellis with the Nobel Research Institute, developed a self-assessment tool in conjunction with the U.S. Roundtable for Sustainable Beef. Ellis stated the tool is an opportunity to evaluate your operation, your company or an operation’s sustainability in a practical way.

The self-assessment tool was created based on five sectors of the cattle industry, and each category referred to a professional in that sector in order to accurately identify success factors in that individual’s aspect of the business.

In reference to that, Ellis explains, “I think of the key things, and I would say the thing that has made the U.S. Roundtable for Sustainable Beef successful today is that when we build and we look around the framework and we look around these aspects of the sustainability, they’re all developed from the sector for the sector. It’s a producer to producer, it’s peer to peer.”

By accessing the website BeefSustainability.us, you will be able to see all the information from the framework around the U.S. Roundtable for Sustainable Beef. The Nobel website also provides access straight to the tool, which is free.

Ellis notes that the tool is not comparing you to someone else. It is simply assessing your operation and progress, allowing for a personal year-to-year comparison. Through a series of 19 questions you are able to identify where you are and where you are heading in your operation. **HW**

