



Revolutionary Future

Resilience and technology — two key ingredients ahead.

by *Kindra Gordon*

Animated and entertaining are two words that come to mind when you hear Lowell Catlett — who has earned the title of “futurist” — speak about what he anticipates in the years ahead.

But, Catlett doesn't just speak to entertain. Trained as an economist, the 64-year-old serves on the faculty at New Mexico State University (NMSU) and has a sincere commitment to educating others and encouraging them to “think big — and differently” with regard to the future.

Catlett is a regents professor in agricultural economics and agricultural business and Extension economics and the dean of the College of Agricultural, Consumer and Environmental Sciences at NMSU. He is the author of numerous books and works nationally and internationally with corporations and organizations — including the U.S. government — doing futuristic planning concerning the effects of technology on careers, lifestyles and the economy.

Catlett shared a keynote address this winter at the Cattle Industry Convention in Tampa, Fla. During his remarks about the future, Catlett was fond of emphasizing “Get ready folks, it'll blow your doors off.” Here is more in-depth insight into his comments and vision for the future.

On America

An eternal optimist, Catlett remains bullish on the U.S., noting that the American spirit is well demonstrated in presidential elections. He says, “Thank God we can have elections. And, if our guy doesn't win, we lick our wounds and say, ‘We'll get you next time.’ We don't burn the palace grounds.”

“The demand for what you do is going to be different.”

— *Lowell Catlett*



Catlett also notes that \$1.5 trillion in foreign investment flowed into the U.S. in 2012. Of this he says, “That matters because they [foreign investors] see a positive future, and we need to too.”

To illustrate America's resilience, he adds, “Remember the first energy crisis when gas prices doubled from 32 cents to 64 cents? And in more recent years, gas went to \$4. But Americans have managed through it.”

Similarly, he recalls the '80s, when many manufacturing jobs moved to Japan. Despite some of the outsourcing, Catlett reports that the U.S. is still the largest manufacturer in the world.

He says, “If you read history, you'll find that no matter what is thrown at the U.S. we get up and work through it. I am not making light of America's problems; I'm just saying problems come and go.”

He continues, “Today it is \$8 corn and climate change. In 20 years there will be different problems. We get through them, we're resilient.”

On research

Catlett forecasts advances in human health research that will also cross over to create a health revolution in the animal sector — and vice versa.

He shares the example of “bonding” research with premature babies. Rather than putting the babies in isolation, stimulating bonding or social connections can boost their immunity and the improvement of their health. This information was based on research with kangaroos and their young and is called the kangarooing method.

Now, the dairy industry is also looking at the kangarooing method for male calves. Typically the male dairy calves are put in crates in isolation but often have a weak immune system and experience a 30% death rate. But an organic dairy has tried the kangarooing method of putting male calves together and had positive results. Catlett suggests this study may create some opportunities for male calves to be better utilized by the beef industry in the future — especially if the need for beef increases in the marketplace.

Catlett anticipates a revolution in the future in how animals are managed in groups or pods for improved health — particularly based on what's being learned in human health.

As another example, he shares results from a study in Japan. Noting that a dog's sense of smell is 10,000 times that of a human, a research study was conducted where dogs were trained to sniff a human's breath and determine if polyps in the colon were benign or cancerous. One dog nailed it with 98% accuracy. Other dogs in the study were 100% accurate, reports Catlett.

Thus, he poses the question: Could a dog be taught to smell a cow's breath for a specific pathology diagnosis? Catlett believes using dogs for this purpose could be a very real part of the future for human and livestock health schemes.

On technology

Catlett is also anticipating even more mega changes in the world with the advancements coming in technology. He notes that the cell phone is no longer just for voice. He gives the example of a camera lens being added to phones in 2004 and the statistic that Americans now take 10 times more photos.

He sees more modifications to the phone in the future particularly for health, such as an app with the ability to use a phone to do a blood test instantaneously and the addition of a software lens or near infrared laser. These tools may tell you instantly if a blemish on the skin is benign or cancerous. Fingerprint identification, transmitting your heart rate to your doctor and assessing your blood pressure may be within the realm of possibilities with future mobile technology.

Likewise, Catlett says, “Diagnostics for human care will also be adapted for animal care and veterinary medicine.” He hints at apps to identify diseases in cattle.

With regard to education, Catlett says the Kindle or mobile computer tablets are also “game changers.” He suggests in the future that students might access the lecture outside the classroom via mobile video technology and then attend class to work interactively to address questions or project assignments.

“It's called flipping,” says Catlett, and he adds that in the future it may speed up the process of earning a bachelor's degree from four years to two.

These mobile computer options — such as GPS and real time — may also advance cattle management, especially with regard to animal health.

Catlett says, “With technology beef producers are going to get paid for things they are giving away now.” As an example, he suggests if you can monitor the health of the herd to manage infectious disease outbreaks, that advantage may offer additional value that some companies are willing to pay a premium for.

On the population

Catlett notes that today there are 7 billion people on the planet. He further breaks this down

saying 1 billion live well, 1 billion do OK and 1 billion finally have improved their purchasing power — and they want more beef among other things with their increasing standard of life. This increase in demand is good news for the beef industry, notes Catlett.

But, he also notes that 4 billion people in the world still struggle every day. To the beef industry, he says, “Would you like to have 4 billion more people wanting American beef?”

He anticipates that to help resolve this problem, the world will need more people who work with their hands to build roads, buildings, etc. And, he sees glimpses of that revolution occurring.

Catlett reports that more women in the world are becoming farmers (currently about half of the farmers in the world are women), and statistics show that women in farmer roles are 30% more productive with the resources given to them.

With the advent of 3-D printers and open source software and hardware, Catlett says, “Let women be the agriculturists and men turn wrenches. We need people who know how to use their hands.”

He believes that model will enable future generations to rise in their income and quality of life.

On changing with the times

Most importantly, Catlett wants people to grasp that change is coming and that the future will be very different because of research, technology and population changes. His message for the beef industry is this: “The demand for what you do is going to be different.”

In reviewing the changes occurring in technology, Catlett shared the story of how adding a camera to cell phones increased the demand for photos 10 fold — but, meanwhile, Kodak, the company that invented digital cameras, filed for bankruptcy last year.

Similarly he shared the story of Amazon, which started out selling books — and has still survived the e-books era. Why? Catlett says Amazon adapted and changed its model. Its website now sells anything and everything — not just books.

Catlett says he shares those stories so people realize the demand for beef has no known bounds. But if you don't adapt to changing times and offer a product consumers want — someone else will. **HW**