Why We Need Technology

Efficient food production is key to help end world hunger, lower food costs and protect natural resources.

by ***Kindra Gordon***

Here are three numbers you may want to tuck into your memory — especially if you want to "wow" your friends and inform consumers — for future chat sessions. The numbers are 50, 100 and 70.

What do they mean? By the year 2050, the world will need 100% more food and 70% of this food must come from efficiency-improving technology. That's the forecast by the United Nations Food and Agriculture Organization regarding the food needed to nourish a world population expected to reach 9 billion in the next 40 years.

Experts concur we don't have enough agricultural land available in the world to boost our food production capabilities; so to do so, the world must turn to technology.

The technology that agriculturalists need to consider includes:

- Applying better production and management practices.
- Using new, innovative tools and technologies to produce better products.
- Employing genetics to enhance desired traits in plants and animals.

Veterinarian Jerry Stokka concurs that technology is key to a viable future. Unfortunately, he says, it is often given a bum rap. Stokka, who formerly worked with Pfizer Animal Health, joined the faculty at North Dakota State University last summer as a professor of livestock stewardship.

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He says, "Technology is not a dirty word. It is not evil....The prudent use of technology is part of good stewardship."

It's often believed that consumers are against technology — and a vocal few are.

But while the voices of these few may be loudest and get the most media attention, they are actually in the minority. Results of an International Consumer Attitudes Study examined opinions and food-buying behaviors of more than 97,000 consumers in 26 countries. The project looked not only at what people say they want but also at how they spend their money.

The results suggest 95% of consumers are fully supportive of using technology to produce their food, and they primarily make food purchase decisions based on taste, cost and nutrition.

With world hunger statistics burgeoning — one in every eight children in France, one in every seven in Japan and one in every five in the U.S. grows up in childhood poverty — the need for more food around the globe is evident.

An epiphany for beef

Stokka notes that crop producers have done a fantastic job of embracing technology — from genetically modified hybrid seed varieties to computers for precision in applying crop protection products and GPS-guided machinery. He asks beef producers: "Are we doing enough on the beef side to keep up?"

He cites animal health products, expected progeny differences (EPDs), artificial insemination (AI) and DNA marker information and suggests, "If we don't use it, we're going to be behind."

Likewise he points out that it would be very rare to find a modern farmer today who does not use herbicides or fertilizers on his crop; so why do we still have producers who do not utilize vaccines and other products for their cattle, he questions.

He expresses frustration as well at the industry statistics that indicate the peak in giving implants to suckling calves was 10 years ago — and today the use of implants is way down even though research has shown they do add pounds — pounds which mean more dollars per calf sold.

He also notes that only 7% of the cows in the U.S. are AI-bred, a process which allows the opportunity for the best genetics to be propagated. Stokka says, "We need more commercial beef producers to use the best genetics possible." He explains this can be achieved either through bull purchases of superior genetics or through the use of proven AI sires. In an analogy to corn, he notes that most farmers don't buy their seed corn genetics from their neighbor's bin, rather they are willing to invest $300 per bag to get the best genetics available.

With specific reference to genetic markers, Stokka adds, "Over 50,000 markers contribute to genetic indexes and accuracy. The information gives us better accuracy of where that bull is going to end up. This is using technology at hand right now. So, as a commercial bull buyer, this is something to ask your seedstock breeders to supply so that better results can be achieved."

Stokka acknowledges that the beef industry has made "huge strides" over the past few decades, but he adds, "To go forward we're going to have to think about some things differently. We need to apply more high-tech strategies, while managing our low inputs.

"We have powerful tools to do even better," Stokka concludes, and he suggests that beef producers should continue to watch the crop industry and follow its lead when it comes to tapping technology for a productive and profitable future. HW

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