

COMMON GROUND

Could 'big data' be a solution?



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It is estimated that at least 2.5 quintillion bytes of data — that's 2.5 followed by 18 zeros — are produced every day. I've read that Google processes 3.5 billion requests daily, and companies like Amazon, Microsoft and Facebook are generating and storing billions upon billions of data points every hour. The rate of data accumulation is staggering. Just think, 90% of all data produced by humans has been made in the last two years.

All of this leads us to the term "big data." Essentially, the term refers to very large, structured or unstructured, hard-to-manage volumes of data generated in our world today — from satellite images to credit card transactions to Facebook likes. When we apply powerful mathematics, algorithms and software to these massive databases, the data turns to information, and new insights appear.

The insights from big data give marketers more knowledge around consumer preferences and buying behaviors. Manufacturing companies use the data to improve efficiency and streamline operations. The data builds artificial intelligence models used for risk management, medical diagnosis and crime prevention, and gives me the fastest route through rush-hour traffic. All good stuff.

Better targeting

What does all this have to do with the beef industry? Today the *Certified Angus Beef*® (CAB®) brand is more effectively promoted using digital media, and messaging can be served to consumers specifically speaking to their preferences or concerns. We can monitor digital discussions about beef or the brand (think Twitter or Facebook) and step in and correct misinformation before it goes viral.

By working with our retailers and their shopper loyalty data, we can target heavy beef purchasers or direct promotions to those who haven't bought in a while. Harnessing data has made marketing our end product far more effective.

Maybe the area I get most excited about is the prospect of how big data could advance genetic improvement. To some degree we are harnessing big data today through genomics and millions of phenotypic records collected and submitted by Angus breeders. I see the potential for some big advancements on the horizon, and we've been discussing this future in the board room.

Some applications are easier to grasp than others. Every day thousands of camera images are captured during carcass grading. If that data were connected to an animal identification (ID), sire and red meat yield, I think we could improve carcass merit even more. What if a consumer could give us feedback on the juiciness, flavor and tenderness of the steak they are eating?

Harnessing traits

What about important traits — like disease resistance — that we aren't characterizing today? We know there is a genetic component to animal health, and harnessing big data might be our best path to building selection tools to tackle an industry problem. Measures of respiration rate, feed efficiency, methane emission or water consumption might be in the cards when technology is applied and big data sets are built. How much more efficient could we make cattle with this knowledge in hand?

The opportunities with big data are limitless. While there are still more questions than answers in this new and emerging field, I am confident Angus will be a leader in figuring it out. As we build on that data, your Angus-influenced feeder cattle will be more valuable, making you more profitable. |

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(see page 91 for a complete listing)

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