

Unlocking The Data Stronghold

Data, Information & Knowledge

Information can be a valuable commodity if you know what data to collect, how to obtain it and how to use it.

BY TROY SMITH

It is most definitely the Information Age. Information is gathered, processed and distributed faster and farther than ever before. Credit (or blame) goes to technological wonders we already take for granted, including cellular phones, fax machines, computers and that information highway — the Internet.

Sharing of information has become fashionable and profitable, for information can be a valuable commodity.

Driven by that notion, the cattle industry has become engrossed in the gathering of information, too. Or more accurately, many within the

industry are involved with the collection of data. They've got drawers full, shelves piled high and cabinets stuffed with data. The question is, how do you identify the useful information?

Ted Montgomery, a professor at West Texas A&M University, Canyon, and director of the Cattleman's Carcass Data Service (CCDS), says cattle feeder Paul Engler once confided that while he had as much data as anybody, maybe more, he sometimes wondered what to do with all of it.

"Engler is the biggest cattle feeder in the world, and I think he figured out how to sort and make use of it," Montgomery says smiling, "but the point is

that the numbers are worthless unless you use them. You must have a plan."

Montgomery says that for producers who retain ownership of their cattle or otherwise track them to the rail, feedlot closeout reports and carcass data are increasing awareness of what kinds of animals those producers are raising. Changes in animal performance and beef quality then depend on whether the data is analyzed into information and applied.

Making sense of the numbers

Ruminating over raw numbers can be a mind-

numbing experience, says Daryl Strobehn, Iowa State University (ISU) animal scientist. That in itself keeps too many producers from creating and implementing a management plan incorporating information derived from production data.

"It can be overwhelming, and we have done a poor job of helping producers interpret their data and establish benchmarks, particularly with carcass data," Strobehn adds. "I think a majority of producers can handle the numbers related to reproduction and growth, at least those that want to can do it. But carcass data requires some analysis to make it useful."

Strobehn says an ISU project begun two years ago was designed to help with numbers interpretation. Producers can submit their carcass data to be put through ISU's grid-calculator program, which generates a summarization table with distribution analysis, telling producers how their cattle would perform in various grid markets. Strobehn says he feels the program's strength is that it reveals problems, namely cattle that fall outside parameters of acceptability.

"Instead of looking for the best, look for the worst results. Identify problems and work to

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eliminate them,” explains Strobehn. “Another thing we do for the producer is to generate a percentile ranking of his cattle, to show what the top-end cattle were worth, compared to middle and bottom groups.”

Carcass data collected on cattle considered for Certified Angus Beef LLC (CAB) do offer direction to breeders, says John Crouch, director of performance programs for the American Angus Association. But he’s not sure producers are following that direction.

The data should point toward selection of seedstock with genetic merit for carcass quality and quantity, Crouch says. “I mean *quality* as influenced by marbling and age at which the animal is harvested. By *quantity* I mean the percentage of retail product or yield grade.

“We need quality and quantity in balance,” Crouch explains. “Environment and management are factors, but even under the best conditions and care, some cattle aren’t genetically programmed to reach an acceptable balance.”

The status quo

In terms of where Angus cattle are now, and where they need to be, Crouch says the average age at slaughter is more than 450 days; it needs to be reduced to 420 days. The average Angus steer is harvested with 0.54-0.56 inch (in.) of fat cover; that should be reduced to 0.45 in. or less while raising the average marbling score by a third of a grade.

“From a yield-grade standpoint, the average Angus carcass weighs 755 pounds (lb.), has 0.56 inch of fat, a ribeye area of 12.4 square inches, and a Yield Grade of 3.4,” Crouch adds. “But if we increased the ribeye to 13 and reduced the fat thickness to 0.4, on average, we could change the average Yield Grade to 2.7. We should be able to do that genetically.”

Ron Bolze, CAB director of



The cattle industry has become engrossed in the gathering of data, but it will require analysis to make it useful.



For producers who retain ownership of their cattle or otherwise track them to the rail, feedlot closeout reports and carcass data are increasing awareness of what kinds of animals those producers are raising, says Ted Montgomery, director of the Cattlemen’s Carcass Data Service.

progeny tests for carcass merit, fears too many Angus breeders have targeted quality, in terms of selection for increased marbling, while neglecting the balance with quantity to which Crouch refers.

“We collect data on 15,000 to 20,000 head of CAB cattle every year. And a comparison of data from 1999 with that collected in ’97 shows that averages for carcass weight and fat thickness have stayed about the same. Average marbling score has increased a little bit, but we’ve lost a half-inch of ribeye in two years,” Bolze says.

“About a fourth of those cattle were sire-identified, and if we look back at the sires’ EPDs (expected progeny differences), we see numbers that are plus for marbling but minus for ribeye area. So those bulls did exactly what the EPDs indicated they should, but they’re going the wrong way. We need Angus steers with more red meat — more retail product.”

Securing meaningful information

So how are producers determining where they fit? If direction can be found through carcass data, is there a “best” method for securing meaningful information? University of Nebraska Animal Scientist Jim Gosey thinks the ideal system would involve a seedstock breeder and several of that breeder’s commercial customers.

“All participants’ calves would be individually identified, including their sires, and all would be finished together,” Gosey says. “Performance data from the feedlot and complete carcass data from the packer would be made available to every participant, along with data analysis. I think that kind of relationship has the most potential for collective pursuit of genetic improvement.”

However, ideal situations may be hard to come by for

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Industry trend shows room for improvement

Many producers first sought carcass information on their cattle through services like Cattlemen's Carcass Data Service (CCDS). Established by the National Cattlemen's Beef Association (NCBA), the service is conducted through the Beef Carcass Research Center of West Texas A&M University in Canyon, Texas. Director Ted Montgomery says the following table presents averages based on data collected in packing plants throughout the country. While the yearly head count represents a small percentage of the industry total, Montgomery feels the averages parallel industry trends.

Year	Head count	Carcass wt., lb.	Marbling score	Quality Grade	FT, in.	REA, sq. in.	Internal fat, %	Yield Grade
1992	19,785	757	42	Choice ⁻	0.48	12.89	2.02	2.86
1993	41,104	745	40	Choice ⁻	0.45	12.53	2.03	2.85
1994	56,324	767	41	Choice ⁻	0.47	12.89	2.15	2.90
1995	34,179	762	41	Choice ⁻	0.46	13.29	2.15	2.71
1996	32,906	757	40	Choice ⁻	0.45	13.20	2.15	2.71
1997	39,134	750	41	Choice ⁻	0.45	13.00	2.18	2.74
1998	35,752	771	42	Choice ⁻	0.48	13.32	2.14	2.79
1999	27,148	765	41	Choice ⁻	0.48	13.16	2.62	2.82

(Marbling values: 30 = Slight⁰, 40 = Small⁰, 50 = Modest⁰)

Montgomery says the numbers indicate no dramatic changes since CCDS started collections. Hot carcass weights are trending higher again in recent years—a trend that's backed by USDA figures, too. Ribeye area (REA) is inching upward, but marbling scores and fat thicknesses (FT) haven't changed much.

What have changed are the tallies of cattle for which Montgomery and staff make collections. With last year's count considerably lower than 1994's peak (56,324 head), Montgomery says the decline doesn't mean fewer cattlemen want carcass data. Rather, the collection chores are being shared among more collection-service firms that are chasing the numbers.

some, even most, producers. Alternatives do exist, including participation in university feedouts (or steer tests), a variety of marketing alliances or progeny-testing programs. Marketing cattle to the packer on a grade-and-yield basis provides some basic data feedback.

But the most basic data might not be all that useful. Along with payment to the producer, the packer usually provides simple quality-grade and yield percentages for the group of cattle. Individual identification, if it existed, is lost.

Here, the producer is trying to base decisions on averages when the variation around the average is really more important. As a marketing practice or source of information, Gosey questions the benefits of grade-and-yield marketing.

Steer feedouts

Steer tests have provided many producers with a taste of retained ownership, showing how some of their cattle perform in the feedlot and offering a peek at what might be under the hides. It's low-risk since producers might be required to enter as few as four or five head in order to participate.

"Steer tests can be very educational for producers who never have followed their cattle to the rail. Sometimes the results really grab a producer's attention and stimulate thought. So steer tests serve a role, but not for genetic improvement," Gosey says. "They provide a fairly low-risk way for producers to get their feet wet, but data collected on a few head probably isn't representative of the entire herd. A whole-herd test is best."

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Alliances

"Alliances might be the commercial man's best route to obtaining carcass data," he adds. "Even with an alliance, unless the cattle are sire-identified, the data can't be much more than a marketing tool."

When joining an alliance, participants usually pay a fee for the right, and possibly the obligation, to market their cattle through the alliance's grid-pricing system. Most alliances virtually guarantee through staff or a contracted collection service, that carcass data will be collected and made available.

There may be additional fees associated with the return of data, and fees may vary accordingly for basic pen data (that is, yield grade and percentage of Choice and Select) or detailed data on individually identified cattle.

"Producers probably need to weigh their obligation to sell through the alliance grid. Are there exit options available? Sometimes, a final commitment to sell on the grid isn't required until about two weeks prior to the market date. In other cases, you might have to commit at the beginning of the feeding period," Gosey advises.

"Consider the fee schedule and how much money might be required up front. Also find out if feedlot-performance data comes with the deal. In some alliances, producers have to make their own arrangements to get feedlot-closeout information," he adds.

Progeny testing

Progeny testing is a system of sire evaluation based on birth-to-market performance of progeny sired by artificial insemination (AI).

According to Roy Wallace, who directs progeny-testing programs for Select Sires, participating herds normally test one young, unproven bull against two older, proven sires. Sire identity for resulting calves

must be maintained, along with records of birth and weaning weights.

All records, including feedlot performance and carcass data, find their way to the breed association's database for calculation of EPDs. The data also goes to the feedlot, the producer of the calves and the breeder of the young test sire.

Producers would have to decide if progeny testing is a good way to obtain data on their calves after considering the trade-off. Wallace says the advantages include free semen. With two-thirds of that coming from proven sires, the producer could put those genetics to work to raise some top replacement females.

"The downside is that you breed some of your cows to an unproven bull, and many producers are reluctant to do that. And the commercial cow-calf industry, as a whole, breeds a small percentage of its cows artificially," Wallace offers, "so progeny testing probably isn't for everybody."

Using the data

According to Pete Anderson of Kansas-based VetLife Co., how producers obtain their carcass data is less important than how they use it. To evaluate growth-implant strategies involving products the firm markets, VetLife has tracked live performance on nearly 13 million head of cattle in 200 feedlots. As an additional service to customers, carcass data have been collected on approximately 4 million head.

"All that data has little value without analysis and a system of reference points to measure against. People have to establish realistic benchmarks — find ways to compare their numbers with those of other producers in a similar environment, with similar goals and selection emphasis," Anderson explains.

"After you've done that, your data becomes information, but



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While carcass information is gaining importance as a decision-making tool, live-animal performance still takes precedence when it comes to profitability. Information support like that provided through the Angus Beef Record Service (BRS) offers the industry a way to find those animals that can be profitable in the pasture, in the feedlot and on the rail (see page 34 of this Feeding Options insert).

you still don't have anything until you turn it into knowledge," he continues. That happens when you use information to make decisions and create change."

And while carcass information is gaining importance as a decision-making tool, Anderson warns producers to remember that live-animal performance still takes precedence. Gain and feed efficiency mean more to the bottom line.

Gosey agrees, allowing how reproductive performance

stands as the greatest determinate of profitability for the cow-calf producer, followed by performance in terms of growth, then carcass traits.

"So when you ask what information is important, the easy answer is that information affecting profitability is important. Do we really need all of the data that's being collected? No, not unless we're going to use it," Gosey says. "If the numbers aren't turned into knowledge, you might as well throw them away."

