

Integrated Identification Systems in Beef

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Summary: Animal identification is, above all, an economic tool for cattle owners. To achieve wider application of animal identification - including electronic ID -- there must be economic incentives. Those incentives are now being created in the beef industry. Moreover, integrated systems of data recovery and management are providing the tools to amplify the economic benefits from individual animal ID. The market for electronic ID will grow and will be sustained by the economic rewards derived from it.

An Economic Purpose Must Exist

Many people have long imagined a system in the beef industry where every animal would be individually identified. It has not happened, because there has not been an economic purpose for it. Unless an animal identification system is mandated by the government for regulatory purposes, it will only be created when there are economic reasons to do it. Moreover, economic rewards created by such a system are the only thing that will sustain it over time.

From my perspective, the only justifiable purpose today for an integrated I.D. system for beef cattle is an economic one. By definition, then, this makes it voluntary.

New Technology

New technology has become available in the beef industry -- technology that will allow feedlots to sort individual animals into uniform outcome groups. By using video digitizing (measuring by use of video images), ultrasound (measuring what you cannot see), and the standard animal scale, integrated with electronic identification and modern computer technology, beef cattle can be managed so that many of the normal carcass discounts are avoided. Such misfits as Yield Grade 4s and carcasses that are too heavy can be virtually eliminated by using this technology. This alone will produce a handsome rate of return on the capital required to install the new technology. But the benefits go far beyond the avoidance of carcass discounts. These are immediate benefits. The longer term benefits created by better genetics and better management are perhaps an order of magnitude larger.

In addition to the applications in the feedlot, some packing plants have developed electronic trolley tracking systems, which give them the means to track individual carcasses throughout their plants -- including the electronic collection of carcass data on every animal. By using electronic ear tags to "attach" the live animal record with the carcass record in the plant's computer, it is possible to create a whole-life performance record on literally millions of cattle without the use of a pencil or tablet (the traditional approach to carcass data collection). This, when coupled with an accommodating business

relationship between the feedlot and packer, will allow valuable information about carcass value to flow back to the feedlot and the rancher who produced the cattle in the first place.

The final component of the packer relationship is a value-based marketing system where each carcass is individually and independently valued by the packer. This is particularly important because it shows, in simple dollars and cents, the tremendous value differences that exist among cattle that were once considered "peas in a pod".

Meanwhile, back at the ranch

More and more progressive cow-calf producers are utilizing computerized cow records systems. Their objectives are manyfold, but primary among them is to identify individual animals that are superior in one fashion or another. These, of course, are used as parent stock for future generations of replacement heifers or herd bulls. It has been difficult and sometimes expensive to get individual animal feedlot performance and carcass data to integrate back into the cow performance records. The systems described above can change that.

The technology is in place, in fact, for a cow-calf operator to download his calf information into a feedlot's computer system before the calves arrive at the feedlot, and then to download the feedlot performance and carcass data back into his cow-calf records. This would allow a rancher to calculate (automatically, of course) a profitability index on each cow and to make similar assessments of the bulls in his sire battery. Armed with this information at chute-side, during annual cow processing for example, the rancher can assist his keep-cull decision making process with current and relevant information. He can keep more of the profitable cows and cull more of the unprofitable ones. Keep in mind, the variation in profit-making potential is very large -- it's worth the effort.

Applied Total Quality Management

There is much written in the beef industry trade press about Total Quality Management - as there should be. It is a complex concept and, unfortunately, many in agriculture dismiss TQM as *a complex theory that only real businesses can afford to do*. But the beef industry can afford to do it. In fact, it cannot afford not to.

The most fundamental basis of TQM, as taught by the originator of the concept, the late Dr. W. Edwards Deming, is that the root of all variation in a product or process must be understood and must be managed. In the beef industry, with unavoidable variation in genetics, the root of most variation in economically important traits is the individual animal. Some of the variation can be explained by the animal's heritage, or plane of nutrition, or animal health regime, but the single largest share of the variation among beef cattle usually goes unexplained by a statistical model in virtually every experiment ever done on cattle.

What does this mean in plain English? It means that the process of beef production will never be brought "under control", in TQM terms, until tools are in place to manage the variation that cannot be

otherwise explained. This means individual animal variation, which requires individual animal identification and individual animal management.

Theory has become reality

It is no longer necessary to think about the integrated system described above as "*something that will someday be done*". It is being done today. Strategic alliances are being formed in the beef industry in which groups of ranchers are enrolling cattle in specific ventures with specific feedlots which have installed all the electronic cattle management technology described above. The cattle in the alliance are destined to a packing plant that has the necessary technology to electronically collect the most important carcass data on an individual animal basis and transfer the data back to the feedlot electronically. The feedlot, then, provides the data to the cow-calf producer who can automatically download it into his cow-calf record system.

In addition to all of this, a database is built among all the cattle in the alliance. From this database, useful conclusions can be made and shared with the ranchers and feedlots involved in the alliance. As a result, they get smarter. They are more successful. They expand.

This is basic free enterprise in a free market economy. It alone will cause the market for electronic identification and electronic animal management technology to expand. Moreover, because it is driven by economics, it will be a sustainable expansion.