Feedlot Health consultants meet regularly to discuss trends, review data and plan strategies for client feedlots.

PHOTOS: JASON MCKAY

The Power of Numbers

Alberta-based consulting group draws on data and teamwork to provide integrated services to producers

BY JOHN MADAY

At Feedlot Health Management Services (Feedlot Health), numbers matter. Not just the number of cattle under their care (more than 4 million), or the number of highly qualified veterinarians, nutritionists, animal scientists, other professionals and support personnel serving clients, but also the trove of individual-animal and group data they collect, analyze and apply every day.

The practice, located in Okotoks, Alberta, just south of Calgary, employs 38 DVM and Ph.D. consultants, along with about 65 paraprofessionals, researchers and support staff, some in the home office and others located in service areas across North America.

Feedlot Health traces its roots back to 1983, when Canadian veterinarian Kee Jim set up a practice in southern Alberta, just as cattle feeding began expanding into the area. At that time, most feedlots in southern Alberta purchased freshly weaned six-weight steers in October and put them directly on feed, targeting the spring market for finished cattle. Respiratory disease was a key challenge and constraint to profitability and growth in the region's feeding industry. As the Western Canada feeding industry grew, Jim added veterinarians to his practice and developed a value-added service model for feedlot health consulting.

Dr. Kee Jim founded Feedlot Health Management Services when he saw an opportunity to offer value-based health and management services to Alberta feedlots.

Beginning in the mid-1990s, Feedlot Health expanded into the U.S. and began working with one large client operation in Nebraska. In 2009, Feedlot Health combined forces with their current U.S. partner, Breck Hunsaker, DVM, and by 2010, Feedlot Health had expanded to serve multiple clients in the U.S., and services increasingly evolved toward a production-medicine approach, with a focus on collecting and applying objective data toward health and production protocols.

This was followed by an extension of services for feedlot and calf grower clients into Mexico, Brazil and Kazakhstan. Jim saw value in collecting data on all animals, not just those that got sick, and he recognized opportunities to provide services beyond animal health, in procurement, production and marketing, to improve sustainability and client profitability. Since then, Feedlot Health has expanded to manage animal health and production programs for about 4 million head annually.

Managing Partner Calvin Booker, DVM, says as the practice expanded, Feedlot Health added doctoral-level animal scientists to the

consulting group, while also prioritizing data-driven services and strategies.

While an individual Feedlot Health consultant might serve as the primary contact for a specific feedlot, none of their clients work with just that consultant. With its integrated service team, Booker says, clients have access to the collective expertise of the full slate of veterinarians, nutritionists and paraprofessionals. So, instead of working with independent veterinarians and nutritionists who might have competing interests, clients interact with a team dedicated to client profitability.

This embodiment of a true team approach is one of the features that sets this group apart from others. In this team approach, each and every day, all consultants draw upon the collective experience of the entire group to address challenges or solve problems for their feedlot and calf grower clients.

Booker says the group has, with its involvement with dairy calf-grower operations, helped foster greater cooperation between dairies, calf growers and feedlots, with integrated health and production management programs and sustainable supply chains.

A tool essential to allowing the group to be confident in data-based recommendations, is their use of proprietary bioeconomic modeling. These models ascribe an economic value to biological outcomes for morbidity, mortality, average daily gain, feed efficiency and carcass characteristics generated through large-pen commercial field trials. As an example, it has been well established that increasing the percentage of roughage in a feedlot diet can beneficially affect some animal health outcomes, but simultaneously have a deleterious effect on average daily gain and feed efficiency.

It is imperative to not just use "back of the envelope" estimates, but rather use parameter estimates from appropriately designed large-pen trials to determine the most profitable percentage of roughage in the diet given the economic environment (i.e., dry matter and cattle inventory costs, season and the health risk of the cattle). Feedlot Health's approach to consulting assists clients with balancing those variables to make the best data-based decision for their operations at any point in time.

Feedlot Health also developed a novel remuneration structure, in which clients select packages of services and pay for them based on the number of cattle in their operation, rather than consultant billable hours. With this approach, clients have access to the full range of support and services as needed for the package they have selected. These services include analysis and application of individual-animal data collected over the years using Feedlot Health's proprietary software system, iFHMS.

The software system facilitates animal health management by providing client animal health personnel with chute-side protocols and dosages for disease prevention, control and treatment at the individual animal level. These protocols are founded on over 35 years of data and large-scale field trials from millions of cattle and are based on factors such as procurement methodology, animal health risk, geographical location, etc. The detailed individual animal data collected using the iFHMS system are used by consultants to provide clients with real-time monitoring of populations and long-term cohort benchmarking, comparing current outcomes to historical outcomes within a client operation, as well as comparing current outcomes to a larger cohort database of similar animals across other client operations.

Feedlot Health collects standardized photos of every post-mortem exam conducted on client operations for diagnosis and data on disease trends.

PHOTO: JOHN MADAY

Clients customize their level of service by selecting from a range of "service modules," each with its own support team. These include: ➔

ANIMAL HEALTH MANAGEMENT

The animal health service module includes data-driven protocols for disease prevention, treatment and control, which are customized based on disease risk and bioeconomic modeling of protocol strategies, to optimize health outcomes and enhance animal well-being. Team Lead Ryan Rademacher, DVM, says services within the Animal Health module help assess and assign infectious disease risk using algorithms that account for the specific risk factors of each group of cattle arriving at a feedlot. Proprietary software installed at client operations collects and accumulates data to quantify inherent risks in different cohorts of cattle so clients can manage infectious disease risk for each group of animals. The combination of historical data on millions of placements and results of commercial field trials means clients have accurate and up-to-date data to correctly assess the risk of every arrival group and apply the most cost-effective protocols to each risk category.

Dr. Eric Behlke reviews health data and necropsy findings with the consulting team.

PHOTO: JASON MCKAY

For more information about FHMS, visit *BovineVetOnline.com/FHMS*

While the focus is on optimal prevention and treatment protocols, when cattle deaths do occur on client feedlots, post-mortem exams are a vital tool for gaining insights and building useful baseline data. Feedlot Health veterinarians train crews on standardized post-mortem prosection procedures, including digital pictures, and all mortalities undergo a complete post-mortem examination. Feedlot Health veterinarians diagnose all post-mortems, either on-site or using digital images, and diagnoses feed back into iFHMS.

Once Feedlot Health began collecting extensive field data and developing population cohort-based, cost-benefit analyses, they developed economic models to tailor protocols based on biological outcomes and a full range of economic factors, Rademacher says. Extensive data mining and epidemiologic analysis of the database has allowed the team to generate ideas and test strategies to target cost-effective protocols for the different risk categories, population types, placement season and economic conditions.

FEEDS AND FEEDING

Feedlot Health nutritionists monitor testing of all incoming feed ingredients and formulate rations based on biological responses and economic parameters.

Zac Paddock, Ph.D., is a Feeds and Feeding team member, and he notes that, excluding the cost of purchasing feeder cattle, feed represents 81% of feedlot production costs, making optimal diet formulation and ration delivery an important component of profitability for feedlot operations. Several of the Feedlot Health clients who subscribe to the Feeds and Feeding service module have adopted on-site near infrared (NIR) instruments to assess moisture and nutritional components in all feed ingredients as they arrive. Feedlot Health consultants monitor those readings, Paddock says, along with bunk-score reports and performance and health data on a daily basis for quality control and real-time recommendations and protocol or operating procedure adjustments.

PERFORMANCE ENHANCEMENT PRODUCT PROTOCOLS

The Performance Enhancement Product Protocols team customizes the use of implants, beta agonists, ionophores and other performance-enhancing technologies based on economic models incorporating cattle population demographics and marketing intentions. They also provide crew training and ongoing evaluation of practices and protocols.

Eric Behlke, DVM, is a member of the Performance Enhancement Products Protocols team. He notes, with their team approach, Feedlot Health veterinarians and nutritionists, supported by commercial-trial data, tailor the use of implants, ionophores, beta agonists and other performance-enhancement technologies based on the cattle type and the cattle owner's marketing goals. This cooperative and data-based approach allows feeders to apply the most cost-effective protocols for performance enhancement or quantify the economic impact of excluding some, or all, performance-enhancement technologies.

For example, Behlke says, research conducted by Feedlot Health demonstrated that removing all performance-enhancement technologies (a natural program) resulted in a 27% negative impact on feed efficiency and a 21% reduction in average daily gain compared to a conventional

program in which cattle received all the currently recommended performance-enhancement technologies. Knowing the true impact of removing these technologies on feedlot performance and health outcomes allows consultants to accurately calculate the opportunity cost of removing them — a valuable analysis for cattle feeders evaluating premiums from non-conventional beef production programs.

INDIVIDUAL ANIMAL MANAGEMENT

Feedlot Health uses a unique and proprietary sorting algorithm designed to optimize management, performance-enhancement technology response, cattle marketing and pen utilization.

Team Lead Sandi Parr, PhD., says Feedlot Health recognized a need for more efficient and targeted management and marketing of feedlot cattle, and developed its own sorting systems for optimizing cattle profitability and facility utilization. Some sorting systems, Parr says, allow more targeted marketing at predetermined endpoints, but affect feedlot profitability by leaving some pens understocked. Feedlot Health's "dSort" system begins with a multipen production lot, and uses a proprietary sorting algorithm to sort cattle from that lot and redistribute them back to those pens, adjusting protocols for implants, beta agonists and other factors based on cattle performance and economics to optimize cattle marketing/profitability and pen utilization. The system's decision parameters are research-based, seeking to identify which cattle will continue to gain weight efficiently with more time on feed and which cattle should be marketed sooner, all while maintaining optimum head counts in pens.

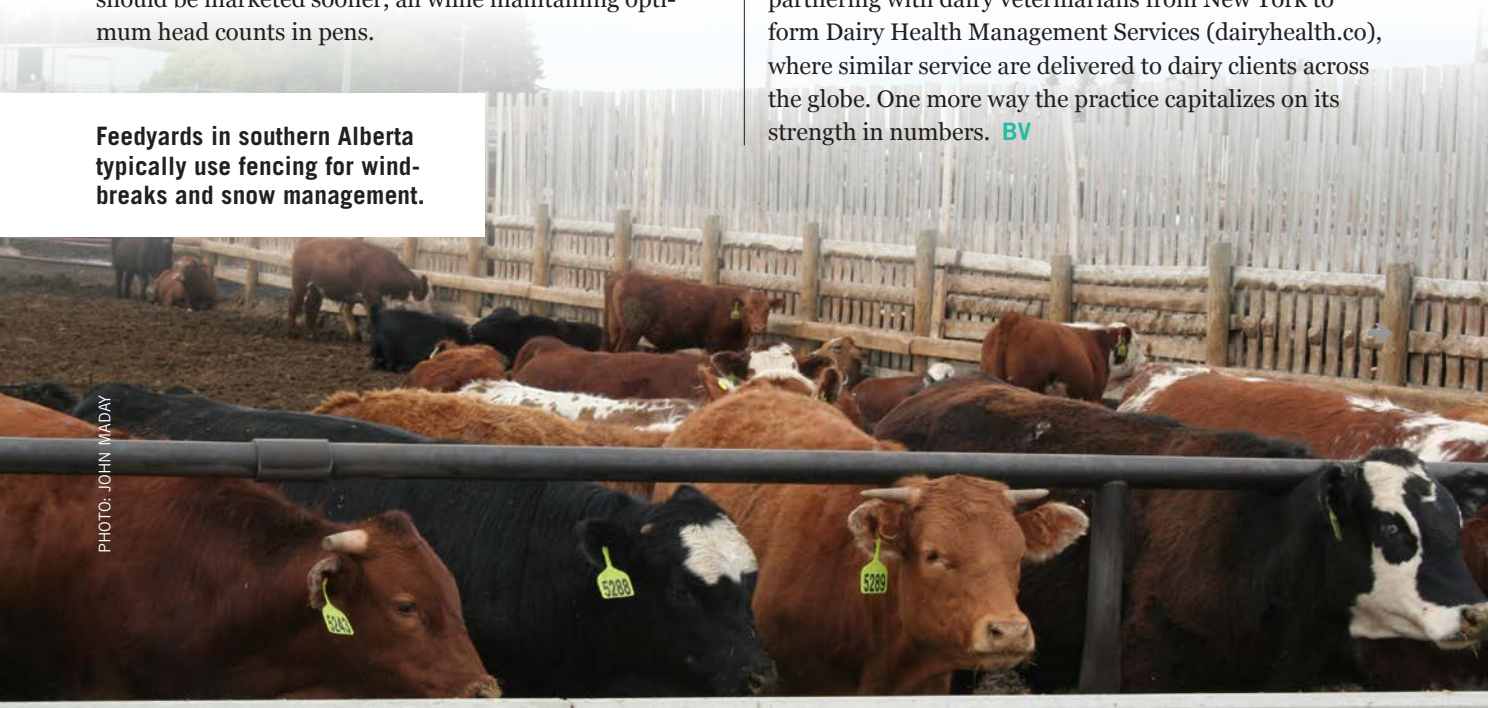
PROCUREMENT AND MARKETING STRATEGIES

The Procurement and Marketing team uses historical health, production and carcass characteristic data, along with comprehensive economic modeling, strategic implementation of performance-enhancement technologies and research studies to provide clients with more accurate information to make cattle buying and selling decisions.

Jim leads this team, helping clients find opportunities to improve net returns by using data and applying the scientific method to buying and selling cattle. For example, team members can use historical individual animal carcass data, along with detailed economic modeling of various "grid" marketing options, to help cattle owners make more profitable marketing decisions at any point in time. Another example is the use of weekly marketing projections to improve the precision of risk management strategies and allow for more accurate assessments of potential marketing options.

Feedlot Health also maintains an extensive research and development program, conducting a wide range of studies from foundational research to controlled clinical trials of animal health and production strategies in commercial settings on behalf of cattle feeders and animal health and nutrition companies. In-house, client-funded trials account for about 70% of the group's research, with 25% of the studies on contract to outside companies and about 5% publicly funded studies. These add up to over 100 research projects per year.

As if the Feedlot Health team was not diverse enough with a large geographical footprint and a vast number of experts, they diversified into the dairy sector in 2012, partnering with dairy veterinarians from New York to form Dairy Health Management Services (dairyhealth.co), where similar service are delivered to dairy clients across the globe. One more way the practice capitalizes on its strength in numbers. **BV**



Feedyards in southern Alberta typically use fencing for windbreaks and snow management.

PHOTO: JOHN MADAY