

Working with nutritionists

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Abstract

Veterinarians and nutritionists both are advisors to help feedlots develop protocols, execute and monitor protocols, train of personnel, and identify new technologies. Nutritionists are responsible for supplement and ration formulation, feed additive recommendations, growth promotants management, bunk management, overseeing quality control, and monitoring protocol adherence. Veterinarians are responsible for arrival protocols, treatment protocols, training crews on case definitions of sick animals, and monitoring morbidity and mortality. Nutritionists are judged on ADG, F:G, cost of gain, and metabolic disorders/mortality rates. Veterinarians are judged on pull rate and death loss outcomes, as well as costs of pharmaceutical usage. There are many opportunities for nutritionists and veterinarians to collaborate. It is important for each party to understand the general recommendations the other has in place, and where things could be tweaked to optimize efficiencies to help feedlot crew teams to execute these protocols. When challenging one another, it is important to stay professional. It is also important that many of the disagreements could be alleviated with understanding why current protocols are in place, and to determine if there are opportunities to adjust the timing of events to compromise what makes most sense to the animal and the operation. As technology continues to improve through monitoring tools, data collection, new products and research, opportunities for collaboration between professionals will continue to exist. Clear expectations and communication from all 3 parties (feedlot, veterinarian and nutritionist) are required for success.

Introduction

Feeding cattle has evolved rapidly over the last 100 years. Data collection, has allowed for greater understanding as well as opportunities to do research, investigate problems, and dive into complex issues faced by feedlot management and staff. As cattle feeding progressed, so have the services that professionals and para-professionals can provide. Smith and Hollis (2007) summarized nutritionists and veterinarians working together well, “For the feedlot’s production goals to be met, the consulting veterinarian and consulting nutritionist need to function together as part of the overall management team.” Both professions have similar objectives to optimize outcomes while focusing on net profitability and are held accountable for different outcomes. May et al. 2017, discussed many of these points years back. The information below is an update on some of points discussed in those proceedings as well as personal insight by the author.

Role of the nutritionist

The number one role of the nutritionist is ration and supplement formulation. The diets need to meet animal requirements as well as be cost effective given the commodities available and taken into consideration what the operator may grow as part of their production program. Nutritionists are typically judged by growth performance (average daily gain [ADG]), feed efficiency (feed to gain ratio [F:G]), metabolic disorders/mortalities, and

feed-only cost of gain. As part of this program, bunk management, diet transitions, implant programs, and feed additive usage are part of a nutrition program. Feed quality control to evaluate incoming feedstuffs, monitoring of products further processed on site, and other on-site assessments that could occur, and typically regular testing via laboratory analysis. Summarization of cattle performance, with major co-variates (gender, weight placed, cattle type, time placed, etc.), carcass characteristics, and some understanding of metabolic morbidity/mortality. As part of this program, it is important for nutritionists to train personnel on site to assure the bunk management, ration transition, ration manufacturing, implant technique, and feed quality control measures are done properly.

Role of the veterinarian

The role of the veterinarian is to have herd health plans in place. This would include the arrival and re-handling protocols for vaccination, parasiticide control, and plans for all animals to mitigate disease. Also, treatment protocols should be in place for various disease treatments, which include initial treatment, secondary treatment, etc., leading to monitoring health outcomes and putting plans in place for disease prevention. This information may help put plans in place for future herd health challenges. Training and education is important to train feedlot staff on refining case definition of detecting sick cattle, conducting post mortems, proper product administration, safety when handling cattle (and other livestock), basic care for cattle treatment, and care. The veterinarian is typically judged on morbidity and mortality outcomes, as well as pharmaceutical costs. Veterinarians are typically judged by pull rates, overall mortality and pharmaceutical costs.

10 keys for success

1: Regular communication

Regular communication with the nutritionist or veterinarian is important for the success of a health/nutrition program. My general rules of engagement are to either call or email my colleague prior to an upcoming site visit. Are there any items I need to be aware of through their discussions, anything I need to look at, or any challenges they seen in the data as it relates to feeding challenges or health challenges? Depending on how the visit goes, in some instances copying them on any follow up correspondence with the feedlot may be important. Lastly, giving them a call or email to let them know what you did see or if there are any areas that may be helpful to them. Some of that may be follow up training, and most importantly, trying to send a unified message to the feedlot.

2: Joint herd health and nutrition programs

There are many events that will happen to an animal throughout the production period such as vaccinations, re-vaccinations, timing of implants and other products. There are opportunities for flexibility around the timing of these events to be

more efficient with our trips through the chute. There can also be adjustments to diet transition plans, or including in-feed antibiotics, systematically to avoid major changes in diet during critical time periods. Discussion of important timing events and working together to meet the goals of the feedlot are important. These discussions, while time consuming, should lead to a better outcome for the feedlot. With the need for a Veterinary Feed Directive (VFD) in place for in-feed antibiotics, the nutritionist is responsible for assuring the diets are formulated to be within the VFD range, while not being completely responsible. Checking in periodically to assure the way the VFD is written as well as the range indicated are within expectations is important.

3 and 4: Record keeping and production assessments

When disease outbreaks occur, it's rarely a single event that caused an issue. Typically, evaluating feed patterns of groups of cattle is one of the first areas to investigate. If a feedlot is using bunk condition scores, it would be important to know what those mean and how they are utilized. What are the feedstuffs that are being fed at the facility? Do those feedstuffs pose any risks, and should we monitor those more closely? Other things to consider: were there any weather changes, or did re-handle events cause any disruptions? What animal treatments have occurred, and does any information we have gathered through postmortems point us in another direction? In these outbreaks, calling your colleague can lead to some interesting discussion, and if done properly, both parties can get a win for their collaboration, but more importantly solve the problem, or avoid a similar problem in the future.

Data collection and the ability to quickly and efficiently disseminate that information continues to improve. Most systems are near real-time that can allow us to accurately assess the current state of what is happening. For both professionals, it is important that everyone knows what is currently happening. What is the big picture, and what does it look like when we dive into cause specific "piles"? We all talk about benchmarks, but feedlot-specific benchmarks likely are the most important, but take time to build those databases. That said, it's important to know where we are, what our expectations are, and when we should have "triggers" in place to help us change the outcome when we aren't meeting expectations. Near-real-time assessments of animal health outcomes, cattle performance, and carcass outcomes should be monitored. These allow us to understand if we are on track, and if not, refinement or further data collection may be required.

5: Diagnostic support

Diagnostic support can be helpful when feedlots face abnormal outcomes. When these are part of the normal production, all parties can be alerted of challenges the feedlot is experiencing from an animal health standpoint. This could be from on-site post mortems of dead cattle and diagnosis, and further diagnostic information collected as needed. Communicating those results to the team (feedlot, nutritionist and veterinarian) can help assess if these are items that need immediate action, or protocol change. Getting other perspectives also can help solve these issues and collectively solve the problem.

6: Monitoring and adjustment

With improvements in data collection, turning data into information is our objective. Having triggers/protocols in place when cattle reach health or production criteria to execute plans

are important. Data collection and subsequent data summaries make watching what happens at the feedlot easier. However, the need to refine and improve what we are doing increases feedlot expectations. It's important that even though we observed something, not making adjustments may be the best outcome. Careful data collection, summary and hypothesis generation could lead to research to clearly answer questions we are facing. Data collection, and even summarization, is important, but knowing the limitations of the data collected and interpreted is also important.

7: Education and training

Education and training of feedlot personnel is important to the success of any herd health or nutrition program. There is overlap at times in these areas, and conducting co-training isn't a bad idea. Generally, there is good discussion especially as it relates to product administration and hygiene when applying these products. Co-training also allows for the group to see there is a team approach, and everyone is working toward the same goals. There are times this allows for better learning the goals of the other professional and identify problems that may need to be addressed on future site visits.

8: Emergency response plan

One can never be fully prepared for every emergency that can occur. General plans for "normal" disruptions due to weather, electricity or other common items that occur in various regions where we all conduct business are good to have. This could be diet transition plans or storm rations, simplified feeding plans, or abbreviated sick animal detection. Major events (mill fires, damage due to tornadoes, or major disease outbreaks) take quick thinking and collaboration. Many times, decisions are made and adjustments are required. Communication between the management team, nutritionist and veterinarian is important. Monitoring of animal health outcomes during these events may also lead to better information to make adjustments to the plan. Having an open mind, to input and feedback, is important as things can change quickly, and one needs to drop their ego and do what's best for the cattle.

9: Site visits

Site visits are an important part of each profession. These are helpful to understand current challenges the feedlot is facing, recent cattle placements, commodity delivery, changes in commodity quality or availability, protocol execution, and identifying opportunities for improvements that can be made. This may also include training, new technology review, check in with feedlot management team and personnel, and reviewing current protocols and execution. At times having clear objectives going into a site visit is important, but one also needs to be willing to adjust based on the observations and challenges a feedlot is currently facing. Being willing to go with the flow and help the client is what is important. Conducting joint site visits 3-4 times per year can be beneficial to keep everyone aligned and work together collaboratively as a management team.

10: Research collaboration

There are many factors at play related to animal health. Like cattle performance, many of the aforementioned items (weight, risk of UF/BRD, etc.) impact animal health outcomes, and understanding these as they relate to animal health is also important as they dictate cost-effective protocol selection and

help to establish accurate expectations for outcomes. In many cases when one biological knob gets turned, another lever gets pulled. There are many potential protocols that could be implemented that have minimal effects on cattle performance that positively or negatively affect animal health outcomes. These include ionophore concentrations, days-on-feed, out weight, roughage concentration, implant strategies(?), grain source and processing method among others.

Opportunities to work together

It's important for the nutritionist and veterinarian to generally know what protocols are in place. These could be important opportunities for collaboration. One important thing to think about is vaccine, or re-handle timing. This is important to both disciplines as it relates to diet transition, growth implant timing, and other products that could be administered throughout the feeding period. If adjusting events and when they happen can happen collaboratively to come to a decision, the feedlot management team is in a better place. Also, if in feed antibiotics that require a VFD are required, working with the nutritionists to incorporate when this should be administered is important. Also, frequently checking the dose that is being administered is within how the VFD is currently written.

Feedlot profitability is important for the overall success of the feedlot. One must not negate the importance of social license in also ensuring success. Nutritionists and veterinarians both play an important role in ensuring an operations success and profitability, and also in maintaining a high social license. One example is metabolic disorders; adding roughage to the diet can reduce metabolic morbidity and mortality. What are the risks associated with doing that? At one extreme, one could remove all concentrate from the diet; this would mitigate almost all of the risk associated with metabolic challenges. The downside is poorer growth and conversion, likely resulting in poorer cost of production. What is an acceptable percentage of metabolic mortalities and overall mortality for a given population of cattle? Having these discussions openly with your counterpart are important. Understanding the value of cattle inventory, feed costs and the goals of each operation are important.

Another hot topic for debate between parties is the use of metaphylactic antimicrobials. These have clearly shown decreases in mortality when administered to feedlot cattle at arrival. At the extreme, if our goal is to have the "least" death loss, all cattle should be administered metaphylactic antimicrobials. Again, what would be the cost of implementing this strategy, both from an antimicrobial stewardship and cost of production standpoint?

Without accurate data and clearly defined goals/objectives, the solution can be difficult to determine. There are many challenges we face in our professions today: social media, regulations, stewardship and definitions of "optimal care". We collectively have the skills and expertise to answer these questions, but being open minded, using data to help make decisions, having clear goals and expectations, and being respectful of each other is important.

Summary

If we can collectively avoid "who" gets the credit or the blame, each professional team can solve the ever-evolving (or standard day-to-day) challenges feedlot faces. The recommendations we collectively make affect animal health, cattle performance and carcass characteristic outcomes. Having clear expectations in place, use of data collection and summary to monitor outcomes is important. This leads to strong alignment of the feedlot operations, nutritionists and veterinarians. The use of these 10 keys for success are not always easy to abide by, but if open, respectful communication is at the core, we can all collectively work through the challenges we all will face.

References

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