

Future role for ruminant nutritionists

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Take Home Message

With urbanization, a declining farm population, expansion of large feedlots, and the internet revolution, activities of ruminant nutritionists must continue to evolve.

Students at all levels should become familiar with current agricultural production practices and human and animal nutrition and health.

Additional classwork, internships, and apprenticeships in specialty areas will enhance the insight of prospective ruminant nutritionists

Some hints to help ruminant nutritionists remain engaged with students and clients are outlined below.

Abstract

Ruminant nutritionists provide reliable, up-to-date advice concerning feeds and nutritional requirements to individuals or groups that produce or manage ruminants. Working in concert with other specialists, ruminant nutritionists seek to enhance the care, health, and well-being of ruminant livestock to optimize their productivity, economic return, farm or ranch sustainability, and safety and health of consumers while fulfilling statutory requirements and reducing the environmental footprint of livestock production. How these goals can best be attained have changed over time. Size of farms and livestock production units have expanded immensely reducing the number of contact points for specialists to serve, county agents have been replaced by area specialists, university departments have merged, university herds and flocks have largely disappeared, most animal research facilities have become obsolete, and many traditional providers of service and products to the livestock industry have either merged or disappeared. Yet public concerns about livestock production and regulations imposed by local, state, and federal bodies have expanded with time.

Teaching

To give naïve students experience, provide special guidance through internship or apprenticeship programs, having students spend summers or semesters at farms, ranches, with industry marketing or salespeople, or with state or regional extension personnel. With reduced faculty size, develop internet programs to share teaching expertise across regional universities, particularly in livestock production classes. Hire undergraduate students to assist current graduate students and animal caretakers; develop individualized projects for undergraduates that mesh with graduate student programs; have advanced undergraduate students prepare and deliver oral or poster abstracts locally or at regional meetings that cover their research; have all graduate students attend regional and national conferences and interact with other presenters and faculty. Encourage advanced students to attend short courses or programs in specialty areas (e.g., feedlot nutrition and management; computerized feed formulation programs) that often are available at other schools or locations.

Research

Graduate students typically gain more knowledge and wisdom through working cooperatively on research projects with their fellow students than from working on their own projects. Encourage students to take classes in “technical writing” and “grant writing. Work with Research and Extension faculty at regional schools to select relevant topics for and develop timely conferences for regional cattle growers and feedlot producers and consultants. Past conference topics related particularly to feedlot nutrition have included: Feeding Holsteins; Bunk and Pen Maintenance; Feed Uniformity and Intake Management; Feed Additive Review; Housing Options; Roughage Sources and Levels; Grain and Roughage Processing; High Moisture Options; Silage Production, Harvest Timing and Management; Sampling Feeds and Interpreting Feed Analysis Reports; Inventory Management and Record-Keeping; Feed Handling, Mixing Equipment and Maintenance; Chutes, Cattle Handling Equipment and Transport Concerns; Health Management of Newly Received Cattle; Implants, Ionophores, and Beta-agonists; Managing Heat and Cold Stress; Futures Trading and Options; Cattle Sorting Criteria; Micronutrient Handling Equipment; Understanding Carcass Value and Avoiding Discounts; Recognizing and Rewarding Employees; Feedlot Water Quality and Availability. Work with suppliers to help organize and fund conferences and cover the cost of conducting the conference and preparing written proceedings.

Extension

Clear, concise, and continuous communication is essential. Travel by car with graduate students to regional and national meetings touring universities, commercial production units, consultants, and product suppliers during the trip. Interact regularly with extension agents within your state and across your region. Exchange ideas and share concerns raised by producers with local and regional nutritionists and with regional private consultants as well as ag economists, physiologists, dietitians, agricultural law specialists, and veterinary extension and diagnostic personnel. Develop “case studies” and, as needed, work in teams to interact with producers to address their concerns individually or in groups; help in developing user-friendly software and spreadsheet programs to help producers maintain records, solve problems, and know who and where to seek for reliable answers; set aside time to outline research findings related to local, regional or national issues or problems that can be shared via internet or Facebook with producers in a monthly “newsletter” with a maximum of one paragraph devoted to each of a number of topics of general or timely interest; occasionally, prepare longer topic reviews and discussions for farm, ranch, or forage magazines.

Professional Nutrition Consultants

Maintain close contact with feed and feedlot managers, and owners by electronic means and with scheduled visits. Familiarity with various computerized feed formulation programs is essential. Be certain that nutritional and management recommendations are fully endorsed not only by feedlot operators, but also by others that serve the feedlot or operation (potentially including veterinary services and the health crew, feed or supplement suppliers, caretakers, owners; bankers); establish a checklist to assess whether new recommendations or practices have been instituted and determine if changes were cost-effective. Address concerns promptly. Assess close-out records monthly to learn why performance of individual pens of cattle were substandard. Have an outside consultant conduct an audit of larger feedlots at least every 5 years to spot problems and alert the feedlot about overlooked problems and bottlenecks as well as unexplored opportunities. Attend and interact with current and prospective clients at regional producer and scientific conferences. Prepare and distribute monthly short paragraph reviews for clients on new findings and ideas, additives, animal health, and regulatory affairs gleaned from readings in the popular press and scientific literature, from conferences and surveys, and from contacts with additive suppliers to keep clients updated and anticipate upcoming challenges. Serve on industry advisory boards guiding

product research to assure that goals are logical and that any products devised have economic potential and are assessed critically in statistically balanced trials that yield reliable, realistic, applicable, and publishable estimates of product value. Work with colleagues who are facing or will face feed supply shortages and marketing changes and limitations to amass ideas and, where possible, provide logical solutions to anticipated problems.

Nutritionists with Product Suppliers

Interact regularly with university personnel and professional consultants. Maintain a list of contacts and specialists that can serve as a sounding board for new concepts or products and their pricing. Participate in regional and national conferences to maintain contact with professional consultants and nutritionists to keep them informed about product availability and changes in product handling and management. Sponsor pre-conference symposia to present data relevant for attendees and sponsor guest speakers that can contribute to the conference. Carefully discuss, design, analyze, and report results from product testing at pre-conferences or scientific meetings. Compile information for and write short articles for publication in farm or ranch magazines. When sufficient information has been accumulated, sponsor meta-analysis of findings from multiple trials for publication in peer-reviewed journals and use in “press briefings, “advertising, and fliers related to products. Sponsor student interns desiring to learn about sales and marketing and interact regularly with faculty and graduate students conducting sponsored product-testing trials.