

The Integrated Livestock Management Program at CSU

A new program is being developed at CSU. The purpose of this, the Integrated Livestock Management program (ILM), is to focus on issues important to Colorado animal agricultural industries. The program is structured to incorporate the research, outreach, and teaching activities of multiple departments within the University to address these problems. The dairy industry, in particular, stands to benefit from this University-wide endeavor.

Since the CSU Dairy was discontinued in 1988(?), dairymen have been concerned about the university's lack of involvement in the dairy industry; although as a land-grant university, CSU had a long history of research and training directed at food animal production. Ongoing changes, both within and outside the university, emphasized the need to develop a new organization for the way CSU works with the dairy industry and other animal agricultural specialties. The result is the ILM.

The ILM is a multidisciplinary program that aims to unite expertise already present at CSU to address the multifaceted problems facing modern animal agriculture. Even a cursory examination of the dairy industry reveals many such complex problems: abortion and reproductive efficiency; chronic herd infectious diseases; postpartum cow health; calf disease and death loss; milk quality assurance; dairy cow foot lameness; and so on. Each of these problems is important in today's production environment, common in occurrence, and unresolvable in a laboratory or single discipline study setting. For resolution multiple components of the problem must be addressed: the nature of the problem, management for its correction, and effects on production and economics.

An ideal ILM project involves a problem that occurs in the production environment. The ILM participants will conduct projects in cooperation with operating dairies, which provide the most meaningful environment for study of real production issues. The graduate level trainees will work with producers and help provide information back to producers resulting in a mutually beneficial partnership.

Since the original planning meetings approximately one year ago, the program has incorporated the efforts of 8 departments in the colleges of Agriculture, Natural Resources, and Veterinary Medicine and Biomedical Sciences, plus the USDA Centers for Epidemiology and Animal Health. Two graduate students have already begun projects this fall, concerning feedlot water quality, and range cow management. Several dairy projects have been planned, for which funding is being sought. A curriculum for participating students has been designed, and the first new course, entitled Issues in Animal Agriculture, will be conducted in the spring.

The current feedlot project is a good example of the type of effort for which the ILM has been designed. This study investigates the impact of naturally occurring high water sulfate content on the health and productivity of cattle. Increased sulfate intake is a likely causative factor in certain respiratory problems and polioencephalomalacia, a severe brain disease in cattle. A water purification process is used to reduce water sulfate

content, and water with varying degrees of purity is then given to the cattle. The study will evaluate the effects of sulfate on cattle health, the costs of the purification process, and the benefits of various water purities on animal performance, feed conversion, and profitability. Dr. Guy Loneragan, who completed a clinical internship at CSU this year, is the lead investigator in the study. He works with the cooperating feedlot under the guidance of faculty from several departments, and is developing expertise in feedlot management, animal monitoring, economics, nutrition, and disease development.

Changes in the CSU faculty and staff have already been made to aid ILM development. Three internships in food animal medicine have been established, with the expectation that some interns will continue into ILM graduate studies. Dr. Frank Garry, in the department of Clinical Sciences, will be spearheading efforts in project development. Two additional clinicians, Dr. George Barrington, and Dr. Rob Callan, are joining the staff at the VTH, providing new specialty expertise in food animal health management. Both of these veterinary specialists have developed multiple areas of expertise, plus advanced training in research pursuits. They will be adding their talents to the ILM and to future editions of the Colorado Dairy News.