



Animal Sciences
April 22, 1988
University of Nebraska-Lincoln

Animal Sciences into the 21st Century

Presiding

Elton D. Aberle, *Head*
Department of Animal Science

Dedicatory Comments

Robert Weber, *President*
Agriculture Builders of Nebraska

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Martin A. Massengale, *Chancellor*
University of Nebraska-Lincoln

Irvin T. Omtvedt, *Vice Chancellor*
Institute of Agriculture and Natural Resources

Keynote Address

"The Animal Industry: Who Will Shape Its Future?"

Max Lenton, *President*
Clemson University

Dedication Symposium

"Future Research Opportunities and Challenges in Animal Agriculture"

Clifton A. Baile, *Director*
Animal Science Research
Monsanto, St. Louis, Missouri

"Education Program Needs in Animal Science—What Are They?"

G. Eugene Allen, *Dean of Agriculture*
University of Minnesota

"Leadership for Animal Agriculture"

Jack Muldix, *Livestock Producer*
Wameka, Nebraska

Reception

Animal Sciences Student Commons



Life in Nebraska has always been closely tied to the land and its products. The animal resources of this state feed people throughout the world, and future findings in the animal industry can impact every person on earth. It is with this vision of service to the community, both local and global, that the University of Nebraska-Lincoln has provided a continually expanding Department of Animal Science. Educating young Nebraskans in all phases



of the animal production cycle and researching ways to improve the animal industry have been a growing part of UNL's academic life for nearly 100 years. The latest development in that growth is the new Animal Sciences building. Dedicating this complex recognizes the past and anticipates the future of the University's commitment to the animal sciences.



Animal science programs at the University of Nebraska began with the establishment of the Department of Animal Husbandry by the Board of Regents in 1898. The first reference to experimental work with livestock was in 1891. The Animal Husbandry staff was housed in two rooms in the south wing of Agricultural Hall until moving into Animal Husbandry Hall in 1917. Animal Husbandry Hall, completed in 1908 and dedicated as Miller Hall in 1972, also housed Agronomy and the Judging Pavilion.



Behind Miller Hall, a blacksmith shop was used as a meat laboratory until the construction of Loeffel Meat Laboratory in 1953. Loeffel Meat Laboratory was named in honor of William J. Loeffel, a pioneering educator and researcher in meat sciences and chair of the Department of Animal Husbandry from 1938 until his retirement in 1959. Loeffel Meat Laboratory was dedicated in 1954. The dedication program cover carried the statement, "For more efficient production of beef, pork, and lamb."



Dairy and poultry were also components of the first animal science program. The departments of Dairy Husbandry and Poultry Husbandry were established in 1902 and 1922 respectively. Professor Frank E. Mussehl dedicated 40 years to teaching, research, and administration in the Department of Poultry Husbandry and was the department's chair from 1922 to 1957. Mussehl Hall, named in his honor, housed the poultry husbandry program and the Nebraska Poultry Industry, Inc., offices from 1956 to 1987.



In 1964 the term "Husbandry" was replaced with "Science," and three years later the departments of Animal and Dairy Science were merged. Marvel Baker Hall, dedicated in 1969, housed part of the expanding program. It was named for Marvel L. Baker who served the University from 1924 until 1963 in the livestock production and nutrition areas. Poultry Science joined Animal Science in 1977. The unified department continues its growth today.



The new Animal Sciences building consolidates all on-campus teaching, research, and extension programs for the Department of Animal Science in one facility. Modern classrooms, animal units for teaching management of livestock, and teaching and research laboratories with modern instruments and equipment have enhanced the capabilities of the department. The program emphasizes breeding and genetics, meat science, nutrition, and physiology in each of the livestock and poultry species important to Nebraska.



Modern classrooms accommodate 20 to 200 students while the Library and Student Commons allow students to study independently or in small groups. Computers are used for teaching basic concepts in several courses. Students develop their skills in least-cost ration formulation, study factors affecting response to genetic selection, and learn applications for artificial intelligence programs in decision making. When computer classes are not in session, the computers are widely used for independent study. Due to their capacity



to process and analyze data and model production systems, computers are also a vital part of the research program.

Teaching and research laboratories offer diverse opportunities to study the many aspects of animal production. Teaching laboratories are used to demonstrate the evaluation of feedstuffs, the manufacture of meat and poultry products, and the function of physiological systems. Metabolism stalls are used to determine digestibility of feedstuffs and to analyze which portions of food are used by animals for



maintenance and for growth of lean, fat, and bone tissue. Animal laboratories emphasize experiential learning as students are involved in the day-to-day management of livestock. These courses utilize such diverse resources as the swine farrowing-nursery facilities, a milking parlor, a battery brooder, quarters for ewes and lambs, stalls and pens for beef cows and calves, and a cattle handling area to collect semen from bulls and artificially inseminate and pregnancy test cows. Modern horse stalls and a full-size riding arena meet the increasing demand



for courses in horse management and equitation. Surgical techniques enhance research capabilities in several disciplines. The modern surgery center is equipped for surgery on all species. Laporotomy, cannulation, and insertion of fistulas are just some of the more common surgical procedures done in this area. In meat-processing laboratories, students learn first hand the techniques for manufacturing and analyzing the chemical composition of meat products, as well as evaluating the quality of these products. Cooking and taste-panel facilities help



students determine final quality and acceptability of the products they have made.

Research laboratories allow students to analyze the components of animal production. Farm animals are emphasized in the animal science program, but many problems are best studied with laboratory species. Mice are used as pilot organisms to study the potential to genetically change such components of litter size as ovulation rate, embryo survival, and uterine capacity. Physiology laboratories are equipped for tissue culture.



characterization of proteins and tissue function, and quantification of concentrations of hormones. Environmental chambers are used to measure the effects of environmental stress on neural function, behavior, and performance. The meat laboratories are equipped to do research ranging from muscle biology to the study of alternative methods of processing and manufacturing meat products. Column chromatography is used in the analysis of enzymes in muscles and in determining composition



of meat products. Fluorometric assay for biological compounds such as enzymes, DNA and RNA, and compositional analysis of meat products are just some of the unique functions of these laboratories.

These modern facilities allow the University of Nebraska-Lincoln to meet the expanding needs of the animal industry. The University's animal science program is developing the technology of the future and training tomorrow's animal industry leaders, as qualified, innovative professionals for Nebraska.



The Animal Sciences building was designed as an expression of both the past and the future. The new facility incorporates two former animal science buildings while its innovative design reflects the futuristic technology within. The Main Street Concourse, the main feature of the upper level, represents a road to the future and the promise of new successes for Animal Science, the University, and the citizens of Nebraska.



Credit: The architect's rendering and photograph of the Main Street Concourse were provided by Davis Fenton Stange Darling, designers of the Animal Sciences building.

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