

Update from Animal Science Teaching Section

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Summary and Implications

The Teaching Section has not reported in previous Swine Research Reports. It seemed rather obvious; the report was about research. But, to provide a more complete picture of activities in Animal Science, this article briefly summarizes information on recent developments in undergraduate and graduate education. It is in keeping with the 2000–2005 Iowa State University strategic plan that calls for a more seamless integration of the activities in *discovery* (research), *learning* (teaching), and *engagement* (extension).

Introduction

In 1986, the combined undergraduate enrollment in Animal Science and Dairy Science hit a low at 360 students. But, the ensuing 10 years had steady increases that created an all time high of 733 students in 1996 (more than 750 students when second majors were included). After the disastrous hog prices in the fall of 1998, enrollment for fall 1999 declined significantly (Table 1). Relatively steady enrollment is predicted for 2000–2005. The upward enrollment trend of the 1990s was fueled in part by a strong employment market. Opportunities for both internships and jobs for graduates were exceptional, even with depressed commodity prices.

Table 1 Fall 1999 enrollment.

Dairy Science majors	60
Animal Science majors	601
General Pre-Vet students	46
Total, department	707
Total, College of Agriculture	2,888

Note: Majors in Animal or Dairy Science may declare preveterinary medicine, but the department also manages the undeclared preveterinary medicine program (General Prevet) for the university.

Placement

The career market for Animal and Dairy Science graduates continues to be exceptionally strong. In fact, some areas of the agricultural industry are in short supply of job applicants. Specifically, the food industry has been challenged to find enough qualified university graduates. This trend is predicted to continue, holding promise of high salaries for well-qualified graduates. Additionally, there is a strong, under-supplied market for Master of Science

graduates with education and experience in animal nutrition and management.

The increased need for interview time and space created by the aggressive career market caused the Agriculture Career Development staff to move the fall 2000 Agriculture Career Day from its traditional mid-November date to mid-October. There simply will not be enough time to accommodate all of the interviews predicted after career day kick-off without moving the start date. Approximately 150 companies, cooperatives, and governmental agencies participate annually in the ISU Agriculture Career Day.

Estimates of average 1999–2000 starting salaries also showed continued growth. Animal and Dairy Science graduates averaged approximately \$29,000 first year salaries whereas students completing Veterinary Medicine and entering large animal practices averaged approximately \$46,000. Because the price structure for most agricultural commodities was very challenged in late 1998 and 1999, the range of starting salaries for 1999–2000 graduates may have been somewhat narrower than in previous years. The high salary offer recorded was \$37,000 compared with \$45,000 for spring 1998. But, the availability of opportunities remained very strong throughout 1999 and 2000 placement periods.

To find out more about opportunities in the Animal or Dairy Science curricula, the Department of Animal Science, or ISU, begin by visiting these Websites:

<http://www.ans.iastate.edu/>

<http://www.public.iastate.edu/~ans/dairy/home.html>

Curriculum Update

Faculty in Animal Science began a complete curricula revitalization activity for both Animal Science and Dairy Science undergraduate programs in 1996. The 18-month effort culminated in completely new catalog materials for 1997–1999.

Closely linked with the curriculum revitalization activity was the development of a system for evaluation of the impact of the changes, called “outcomes assessment”. Simply stated, “outcomes assessment” is a process to evaluate the knowledge/skills gained by students at the end of each course they complete and at the end of their undergraduate program. The achievement of outcomes will be evaluated by surveying students in each course for selected terms, interviewing graduating seniors, and surveying employers of students.

The faculty implemented the new undergraduate curricula in Animal Science and Dairy Science in fall 1997; therefore, spring 2001 graduates will be the first to experience the entire new curricula. Senior exit interviews from students graduating under the new and old systems will be compared as a part of the assessment. Senior exit interviews have been completed with a limited number of students who

completed a portion of the new curricula. The response to the change has been positive.

One of the core changes was to increase the amount of hands on activity in courses, beginning with the first course, Animal Science 114. AnS 114 serves as an excellent example because students now enroll in two added hours of laboratory activities to introduce them to the livestock industry and to demonstrate animal handling techniques. Concurrently, senior students volunteer to be laboratory teaching assistants for AnS 114Lab. The seniors use AnS 114Lab as an added opportunity for developing presentation and group leadership skills.

New Graduate Majors Approved

In spring 2000, the Iowa Board of Regents approved new Animal Science MS and PhD majors proposed by the faculty. The majors will be implemented in fall 2001. The graduate majors will be Animal Breeding and Genetics, Animal Nutrition, Animal Physiology, Animal Science, and Meat Science. The new Animal Physiology major includes the previous majors of Reproductive Physiology and Muscle Biology, whereas the Nutritional Physiology major has been combined with Animal Nutrition.

The new graduate major titled Animal Science is intended to allow MS and PhD students to plan a broader program of study for their degree and to accommodate a wider range of research interests in the department.

Kildee Addition Dedicated

On November 7, 1998, the \$20 million Kildee addition and associated remodeled areas were dedicated. New and remodeled classrooms, new laboratories, and faculty offices were opened for use in a stepwise manner during the fall term. The two-story, 74,000 square foot addition plus 19,000 square feet of remodeled spaces for teaching will allow considerably more elbow room for teaching, research, and extension programming.

The department had simply outgrown the facility built originally in 1964. The facilities include a remodeled 85-seat auditorium in the old meat laboratory area, two new-55 seat classrooms in Kildee, and three new teaching laboratories in Kildee. The old meat laboratory was renovated to expand its small teaching pavilion to be approximately the size of the previous Livestock Pavilion. The remodeled pavilion area has associated indoor livestock holding/handling pens.

The Kildee addition also houses the Marion Eugene Ensminger and Audrey Helen Ensminger International Room. The Ensminger International Room, dedicated on October 31, 1998, houses art and artifacts that help to describe the illustrious careers of the Ensmingers. The Ensmingers, through their Agriservices Foundation, had forged a relationship with the Department of Animal Science at ISU through cosponsored International Ag-Tech Schools

taught in China, Cuba, Russia, and Ukraine. Dedication of the room honored the Ensmingers for their service to the world animal industry and their work to reduce world hunger. The room is used for meetings with educational groups, livestock producer groups, and international guests.

New laboratory facilities and office complexes in the addition house the molecular genetics research group and the physiology research section. The addition ties physically to both the newer and old meat laboratory facilities. In the area of the newer meat laboratory, the addition provides expanded research spaces and offices for the meat science section.

The addition provides considerable space for housing of both laboratory animals and domestic livestock for research or teaching activities. The first floor of the addition houses a state of the art metabolism room capable of holding 16 cattle.

These new spaces should keep the department on the road to "being the best that it can be". The college and department administration and faculty showed their commitment to this project by helping to raise \$3.6 million from private donors to supplement the approximately \$16 million appropriated by the Iowa Legislature.

Strategic Planning

Strategic plans for 2000–2005 for all levels at ISU (university, college, department, and curriculum) were submitted in spring 2000. The university plan calls for a renewed focus on its founding principles and its tripartite mission. Specifically, *learning*, *discovery*, and *engagement* will be approached in a fully integrated relationship. The plan reaffirms the goal of ISU to become the nation's premier land-grant institution. ISU will embrace the special character and orientation of the engaged institution by

- responsiveness to clients and stakeholders
- respect for partners in education
- academic neutrality in serving as a resource
- accessibility for all constituencies
- integration of mission with responsibilities
- coordination among university entities working in concert with each other
- resource partnerships with government, business, and the nonprofit world

Results and Discussion

Dramatically increased enrollments, redesigned undergraduate degree requirements, new graduate majors, and new and remodeled research and education facilities added up to a challenging, but rewarding beginning of the new millennium for Animal Science faculty. But change is at the root of progress, and progress is the key to the future for Animal and Dairy Science graduates.