

Update from Animal Science Teaching Section

A.S. Leaflet R-1973

M. Douglas Kenealy, University Professor
Animal Science

Summary and Implications

Student admissions, placement rates and starting salaries for graduates of animal and dairy science remained strong in 2004. Curricula have been revitalized by the creation of new sophomore courses in animal production and the refocus of senior coursework to enhance emphasis on enterprise management. New faculty members joining the teaching program and planning for both a new multi-purpose animal pavilion and a dairy farm near campus have heightened the enthusiasm about the future of animal science education for students and faculty.

Introduction

The 2004-2005 academic year has been one of building for animal and dairy science teaching. New faculty members have joined the teaching team and program-related building projects have begun to take shape. Student numbers in animal and dairy science undergraduate majors and graduate programs remained strong. University enrollment dropped by exactly 1,000 students between 2003 and 2004, but the animal science department declined by only 5 students. Steady enrollment in animal and dairy science reflects confidence in the career market. Placement rate, reported for the previous academic year, remained strong at 98%. Salary information projects average starting wage at about \$35,000. Selected enrollment information data for fall 2004 are included in Table 1.

Table 1. Fall 2004 Enrollment at Iowa State University.

Animal Science undergraduate majors	501
Dairy Science undergraduate majors	49
General Preveterinary students*	26
Total, department undergraduates	576
Animal Science graduate students	97
Total, department	673
Total, College of Agriculture	2,477
Total, Iowa State University	26,380

* Majors in animal or dairy science may declare preveterinary medicine options, but the department also manages the undeclared preveterinary medicine program (general preveterinary medicine) for the university.

Faculty Changes

Two new faculty members joined animal science teaching in October of 2004. Drs. Diane Moody and

Matthew Ellinwood joined the research faculty in animal breeding in genetics, specifically attached to the Center for Integrated Animal Genomics. Dr. Moody's research assignment will be in dairy genomics. She will begin her teaching at ISU with the animal breeding and genetics undergraduate course (AnS 352) in spring semesters. Dr. Ellinwood represents a new beginning in research for animal science at ISU. His research will be in dog genomics. He will begin his undergraduate teaching with the sophomore companion animal science course (AnS 224) in spring semesters. Both faculty members will also develop graduate-level courses in their science expertise.

Facilities Planning

The planning processes for two major building projects for the department are making good progress. Planning for the new ISU dairy farm is in the advanced architectural development stage. At the time of writing this update, purchase of land at the primary desired site for the farm had not been finalized, but was very near completion. A secondary site is available if any complications occur relative to the primary site. Each of the two potential sites is located close enough to campus for convenient access for education and research activities.

The dairy farm is planned to house 500 milking cows for teaching, extension, and research activities. The farm will be financed by the sale of the existing ISU dairy property in Ankeny, Iowa. The basis for the herd will be the current ISU dairy herd at Ankeny, including cattle transferred from Ames in 2003, and the ISU Jersey herd currently located at Northeast Iowa Community College near Calmar in the Northeast Iowa Community Based Dairy Foundation herd.

The second building project is the proposed new animal science pavilion. The pavilion project has moved to the architectural concept and initial budget proposal stage. The pavilion project is proposed as a multi-use facility that will accommodate classes, outreach activities, and animal events open to the public. The proposed site for the multi-use pavilion is on Mortensen Road east of the old ISU Ames dairy site.

Enrollment and Career Placement

Career opportunities and job placement continued to be excellent for animal and dairy science graduates. The latest figures received from ISU Agriculture Career Services for 2003 are illustrated in Table 2. To the best of our knowledge, the October 2004 Agriculture Career Day at ISU was the largest in the nation with 132 companies or organizations meeting with our students. During the previous full academic year (fall 2003 and spring 2004), 1,252 formal interviews were completed at Agriculture Career Services in Curtiss Hall.

Table 2. Fiscal year 2003 undergraduate employment: results for animal science and dairy science students.

	Number:
Graduates	120
Placed or further education (98%)	118
Placed in agriculture	70
Employment within Iowa	52
Further education*	38
Estimated average starting salary	\$35,000

* "Further education" included graduate studies (MBA, M.S., Ph.D.); colleges of law, medicine, and veterinary medicine; or a second bachelor's program.

The department graduated 20 Master of Science students; 7 entered employment and 11 continued in Doctor of Philosophy (PhD) or other professional programs. Ten students completed PhD programs, nine entered professional positions.

Changes in the teaching program

With the new 2005 catalog, the faculty will usher in a dramatic change in educational philosophy for animal science at ISU. The changes are in the offering of species-related courses and are intended to more closely match the way college students learn best.

In the past, the curriculum in the Animal Science Department was layered in three phases: introductory courses (freshmen and sophomores), discipline depth courses (juniors), and animal production courses (seniors). The philosophy of the ordering of the advanced courses was: teach the disciplines (breeding, nutrition, physiology, etc.) in depth as foundation material and then take discipline education to the application stage in senior animal production courses. Additionally, the senior courses have been transitioning from life-cycle animal production to in-depth enterprise management.

Changes in the curriculum were prompted by considering how students are best guided through the learning process. In recent years, some faculty have been concerned about the motivation of students to learn discipline information. Students didn't fully comprehend the necessity of in-depth discipline courses because they had not studied the species and realized the impact of breeding, nutrition, physiology, and other subjects on

production. Additionally, there have been challenges in the transition of the senior courses away from life-cycle production. Students from many majors, including animal and dairy science, wanted to take a broad array of animal production courses, but were not always ready for, nor interested in, in-depth enterprise management of each species. The solution for 2005 will be to invert the learning order by creating a complete group of the species-related courses at the sophomore-level to come before the discipline courses. The goal is to intrigue the sophomores about the need to learn in-depth discipline information. There will be four stratified phases in the new learning scheme: introductory courses (freshmen), animal production courses (sophomores), in-depth discipline courses (juniors), and species-intense enterprise management courses (seniors).

New life-cycle management courses broaden the sophomore-level sequence to include individual courses in beef, companion animals, dairy, horses, poultry, sheep, and swine. Students will complete at least three of these species to graduate. Senior courses have been in place for each of these species group. With the opening of the expanded sophomore series, senior courses will now have significantly more time to focus on in-depth enterprise management. Students will complete at least two senior courses to graduate. An added benefit of the new sophomore course sequence is alignment with animal science programs completed by community college transfer students.

Discussion

Addition of new faculty and expanded course offerings in Animal Science has infused renewed enthusiasm into faculty and students. Plans for a new pavilion and dairy farm add to the excitement for 2005. Combining these new elements with an already strong enrollment and career placement record, leads to projection for an excellent year for the Animal Science Department in 2005. To track new developments in animal science teaching programs, facilities, faculty and staff, please sign on to the following websites:

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