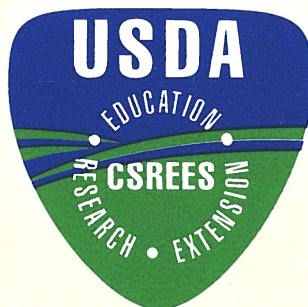
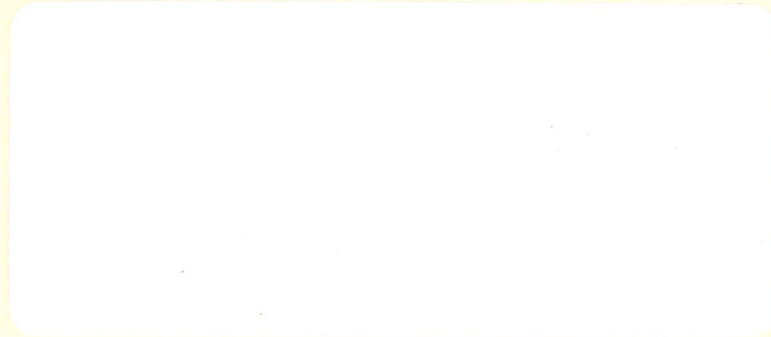


**U.S. Department of Agriculture
Cooperative State Research, Education,
and Extension Service
On-site Program Review
Report**



On-site Program Reviews are provided as a service of the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, in cooperation with the State partners in a continuing commitment to maintain and improve program quality through merit reviews

U.S. Department of Agriculture Cooperative State Research, Education, and Extension Service



The Mission of the Cooperative State Research, Education, and Extension Service (CSREES) is to achieve significant and equitable improvements in domestic and global economic, environmental, and social conditions by advancing creative and integrated research, education, and extension programs in food, agricultural, and related sciences in partnership with both the public and private sectors.

CSREES national program leaders work with regional and national groups to assure the quality of science and to set program priorities. CSREES administers USDA funds for agricultural research, higher education, and extension as appropriated by Congress for the State; gives focus to the broad research and education programs in the States; and participates in a nationwide system of research and education planning, coordination, and evaluation.

The programs of CSREES are carried out cooperatively with:

- ▶ Colleges of Agriculture
- ▶ State Agricultural Experiment Stations
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- ▶ 1994 Native American Land-Grant Universities
- ▶ Colleges of Veterinary Medicine
- ▶ Schools of Forestry
- ▶ Schools and Colleges of Family and Consumer Services
- ▶ Hispanic-Serving Institution



United States
Department of
Agriculture



Cooperative State
Research, Education
and Extension Service

Washington, DC
20250

JAN 14 2002

Dean Kirklyn Kerr
College of Agriculture and Natural Resources
University of Connecticut
1376 Storrs Road, Unit 4066
Storrs, Connecticut 06269

Dear Dean Kerr:

Enclosed are five (5) copies of a final report written by the Cooperative State Research, Education, and Extension Service (CSREES) Review Team following their comprehensive review of the Department of Animal Science. The review was conducted October 28-31, 2001. Each of the Review Team members has been sent a copy of the report, and has been asked to respect the confidentiality of the information.

The members of the CSREES Review Team reported that this assignment was both interesting and rewarding. Several commented that it was a tremendous learning experience. They were very favorably impressed with the high quality of faculty and staff, and their level of morale. For your convenience, we have included an Executive Summary, the team's response to administrative expectation, and a summary of recommendations. We hope this report will be helpful in planning future activities.

I hope that the discussions and recommendations contained in this report will be useful to you as you strive to further enhance the excellence of state-wide animal science programs that support recognition of your regional and national leadership. As you review and react to the team recommendations, CSREES would like to make a request of you. We would appreciate receiving a post-review follow-up report approximately one year after the review. A post-review report should describe the extent to which this review process and the team recommendations have been of value to enhancing the excellence of the department. Also, it would be helpful to CSREES if you could identify specific positive outcomes or changes which were implemented because of this department review.

Dr. Kirklyn Kerr, Dean
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While I recognize that it may be impractical to implement all recommendations, it will be useful to have your office's post-review comments to allow CSREES to do future evaluations of the impact of our agency activities, particularly our on-site Department review leadership.

Sincerely,

A handwritten signature in black ink, appearing to read "E.M. Wilson". The signature is fluid and cursive, with a large initial "E" and "M".

Edward M. Wilson
Deputy Administrator

Enclosures

cc: Review Team

United States Department of Agriculture
Cooperative State Research Education and Extension Service

Review
of the
Department of Animal Science

University of Connecticut
Storrs, Connecticut 06269-4066

October 28 - 31, 2001

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EXECUTIVE SUMMARY

The Department of Animal Sciences at the University of Connecticut has made excellent progress in developing their research, teaching and outreach areas since the last external review conducted by the US Department of Agriculture in 1992. This progress can be attributed to several factors including strong leadership, an infusion of new faculty members, and an investment by the state and University in the infrastructure needed to support development of outstanding programs. Many of the problems noted are minor. Many of these challenges stem from the Department's success in attracting high caliber faculty members, graduate and undergraduate students.

The College and Department have been fortunate to have had exceptional leadership over the last several years, to complement the outstanding faculty and support staff. Department members in all areas appear dedicated and competent. They recognize and support the Land Grant University mission of balanced programs in education, research and extension.

To summarize perceptions of the Review Team, the Department, College and University should take pride in the accomplishments and improvements seen in the Department of Animal Science. The Department has superficial problems that can be handled internally, and others that require administrative decisions at the College and University level. Some specific areas that need to be addressed include:

- The Transgenic Animal Facility/Center for Regenerative Biology is a unique opportunity to make major advances in transgenics and cloning, but also has the potential to drive less than positive changes in the Department. This situation exists due to the potential to emphasize meeting requirements of the Center.
- Communication is inhibited because personnel are being overextended in their attempt to compensate for rapidly increasing student numbers.
- Including food science/safety in the Center for Environmental Health would allow the development of another high profile Center.
- Teaching and advising efforts are of high quality but are beginning to show the strains of insufficient support for the number of students and research expectations.

Additional opportunities for improvement are listed in each section of the report, and summarized as Appendix C. While problem areas as noted in this report are relatively minor today, they must be addressed or they may become serious and threaten the credibility of the Department and College.

REVIEW TEAM MEMBERS

1. Donald Beermann, Department Head
University of Nebraska
Department of Animal Science
C203 Animal Sciences
P.O. Box 830980
Lincoln, NE 68583-0908
Telephone: 402.472.3571
Fax: 402.486.3691
email: dbeermann2@unl.edu

2. David Benson
University of Connecticut
Molecular & Cell Biology
Life Sciences, Unit 3044
Storrs, CT 06269-3044
Telephone: 860.486.4258
Fax: 860.486.1784
email: David.Benson@uconn.edu

3. William Berndtson, Associate Director
New Hampshire Agricultural Experiment Station
COLSA-Dean's Office
Taylor Hall
University of New Hampshire
Durham, NH 03824
Telephone: 603.862.2553
Fax: 603.862.4486
email: bill.berndtson@unh.edu

4. Jim Hermes
Department of Animal Sciences
112 Withycombe Hall
Oregon State University
Corvallis, OR 97331-6702
Telephone: 541.737.2254
Fax: 541.737.4174
e-mail: James.Hermes@orst.edu

5. Kristen Johnson
Washington State University
Department of Animal Science
231 Clark Hall
Pullman, WA 99164-6320
Telephone: 509.335.4131
Fax: 509.335.1082
email: johnsoka@wsu.edu

6. Eric Overstrom
Department of Biomedical Science
Tufts University
School of Veterinary Medicine
200 Westboro Road
North Grafton, MA 01536
Telephone: 508.839.7940
Fax: 508.839.7091
email: eric.overstrom@tufts.edu

7. Richard Reynnells, National Program Leader, Animal Production Systems,
and Team Leader
Cooperative State Research, Education and Extension Service, Plant and Animal
Systems
800 9th Street, SW, Room 3130 Waterfront Centre
Washington, DC 20250-2220
Telephone: 202.401.5352
Fax: 202.401.6156
email: rreynnells@reeusda.gov

University of Connecticut contacts:

1. Cameron Faustman, Department Head
Department of Animal Science
University of Connecticut
3636 Horsebarn Road Extension U-40
Storrs, CT 06269-4040
Telephone: 860.486.2413; 2414; 2550
Fax: 860.486.4375
email: cfaustma@canr.cag.uconn.edu

2. Rebecca Chew
University of Connecticut
Chancellor's Office
352 Mansfield Road, U-2086
Storrs, CT 06269-2086
Telephone: 860.486.6796; 4037

Fax: 860.486.6379
email: rebecca.chew@uconn.edu5.

REVIEW TEAM OBJECTIVES

As requested, a comprehensive review was conducted of the Department of Animal Science, located within the College of Agriculture and Natural Resources at the University of Connecticut, Storrs, Connecticut from October 28 through 31, 2001. The review team's objective was to provide a thorough review of the department's programs and facilities, and to determine if the needs of the students, faculty and clientele are being met.

The Review Team consisted of one representative from the United States Department of Agriculture (USDA), four members from Land Grant University (LGU) Colleges of Agriculture, a private university, and a representative from the University of Connecticut, whose discipline areas of expertise are represented in the Department of Animal Science Program. It is significant to note that while the Review Team's goal is to provide recommendations helpful to the Department and University of Connecticut it must be understood that given the short window of opportunity to understand the program, some perceptions and recommendations may not be completely accurate. To the extent that our understanding is correct, and recognizing that funding potentials are finite, we submit our recommendations as suggestions for improvement.

The Review Team recognizes that many recommendations require additional or re-directed funding that may not exist, which is certainly painfully apparent to administrators and faculty members. Review Team suggestions for alternative funding levels or sources are intended to address the faculty member's and administrator's clear desire to accomplish more than expected, even given their limited resources. To be implied in all recommendations is the need for multi-level cooperation in on-going and aggressive recruitment of financial support for existing, desired, and proposed programs, facility renovations and equipment upgrades.

The team had an organizational meeting on Sunday, and an opportunity to visit with administrative personnel. The schedule is provided as Appendix A. The team initially met with Chancellor Petersen, and several administrators from the College of Agriculture and Natural Sciences. Administrative expectations were outlined for the Review Team to address. This request is honored through comments within the text of various sections, and directly in Appendix B. Appendix C is a Summary of Major Recommendations.

DEPARTMENT OF ANIMAL SCIENCE

The University of Connecticut is a Land Grant University, Sea Grant University, and Space Grant Consortium institution. The University is undergoing a dramatic transformation through an unprecedented public investment of \$1 billion over 10 years through the Connecticut State Legislature's UCONN2000 program. The University's Board of Trustees has adopted a Strategic Plan to provide direction for growth and development. Connecticut has a prime role

in education, training and re-training of the State's workforce, and the Department of Animal Science plays a critical role in this and related missions.

The Department of Animal Science is one of seven academic departments in the College of Agriculture and Natural Resources and offers both undergraduate and graduate instruction. Research and experimental work is carried out through the Storrs Agricultural Experiment Station (AES). The AES is one of two in the state, which makes Connecticut unique, and they share all Federal dollars allocated within this category. Educational and service programs are conducted throughout the State by the Cooperative Extension System.

The Ratcliffe Hicks School of Agriculture offers technical and applied education in horticulture and animal science. Graduates receive an Associate of Applied Science (AAS) degree. Some AAS graduates transfer to other units on campus, notably the Department of Animal Science.

While pursuing their AAS or BS degree, Animal Science students work with animals and learn the basic sciences associated with animal production or research. Several options (e.g., Pre-Vet, Equine) exist within the Animal Science major. Course-work is supported by 14 full-time tenure-track faculty members and 1 Lecturer. Students may participate in Professional Internships, the University Honors Program, and International Internships. The Department is a leading contributor to sponsored research, and historically has maintained the highest undergraduate enrollment in the College.

The Master of Science and Doctor of Philosophy degrees are offered in Animal Science with supportive instruction in biochemistry, environmental health, physiology, biology, nutrition, food chemistry, food microbiology, statistics and related fields. All graduate students are required to complete credits in the Graduate Seminar and the Presentation Skills courses. The Ph.D. research may have a concentration in physiology (reproductive, lactation, and growth), or emphasize environmental health, animal behavior, animal breeding, food/meat science, or nutrition.

It is the Department's goal to provide each Animal Science major with a challenging and well-rounded education, including the opportunity for "hands-on-learning". Over 70 students are employed by the department each year to care for animals or their products. The Department has a professional quality dairy store, the Dairy Bar, and supporting processing facility.

The mission of the Department of Animal Science is to provide an academically stimulating education for all students, regardless of level. The mission and goals of the Department advance the mission and goals of the University's Strategic Plan, "Beyond 2000: Change". Departmental goals include maintaining a leadership role in research funding, undergraduate enrollment and an exemplary extension outreach program. This is accomplished by establishing relevant and productive research programs, developing strong teaching and advising capabilities, and being responsive to the animal agriculture community. Their objective is to provide a comprehensive education in animal science that is oriented toward addressing societal and industry needs, and that promotes scientific curiosity, creativity and the personal development of all students. The Department is committed to outreach programs in the areas of dairy, livestock, poultry, equine, environmental sciences, and food safety to

assist the producers and other citizens in the state. Support of youth activities is an important component of their program.

There are two Centers located in the Department of Animal Science:

1. Center for Environmental Health
This Center was established in 1986 to foster interdisciplinary activities designed to solve problems of environmental health within Connecticut and to serve as a focal point for bringing together diverse groups from around the State with common concerns for our environment.
2. Transgenic Animal Facility (TAF) (Center for Regenerative Biology: CRB)
The TAF is affiliated with the College of Agriculture and Natural Resources and the University of Connecticut Biotechnology Center, and is located in the Department of Animal Science. The TAF provides services to the university as well as industry on the production of transgenic mice, rabbits, cats, pigs and cattle. It is also a center for research excellence at the University. The TAF has made several ground-breaking contributions to this area of research.

REVIEW TEAM OVERVIEW

FACILITIES AND RESOURCES

Resources Overview

Physical resources at present range from outdated but well-maintained and functional only for stock maintenance or very applied research, to new and state of the art, with more facilities coming on-line. Laboratory equipment is not a major issue, and there is good sharing of resources within the department. Laboratory and equipment maintenance, and computer support issues are present and should be addressed as a priority.

Teaching facilities are excellent, with the exception of one higher level teaching laboratory that is required to properly and safely conduct one course. There is also the issue of per diem charges that have inhibited teaching a highly successful class, and have resulted in the less than efficient use of administrative time to deal with the issue. These situations are discussed in more detail in other sections.

Farms are close to campus and are well maintained and functional, but some are out of date to support meaningful research for the industry. Routine maintenance issues inhibit the efficiency of these units.

Staff are excellent University resources, but are overloaded. Solutions are out of the hands of the Department or even higher decision makers due to union and university policy. Technician level support would also be highly beneficial and a better alternative than to use faculty time to compensate for a lack of this type of support.

Research Facilities

Current Status

In general, the laboratory space is adequate at present, and there is quite a bit of recent renovation in addition to construction of state of the art laboratories. In the new biotechnology building the major concerns expressed were the equipment maintenance, and the computer support structure needing to be formally defined.

Strengths

There is considerable investment in new space and equipment as a result of the UCONN2000 initiative. This commitment by the people of Connecticut is greatly appreciated and essential to the continued success of the university. Several faculty have acquired new equipment through external grants that further support research efforts. The administration has provided all new faculty with good start-up packages, and some have excellent packages, especially compared to just a few years ago.

Opportunities for Improvement

High quality equipment does not seem to be a problem, but there were some concerns about maintenance of new and existing equipment, who will pay for this expense, and the need for service contracts. There may be a need for enhanced institutional commitment and planning for equipment replacement and maintenance. One suggestion was for the university to cost share with the researcher and department.

Recommendations

1. Develop policy for cost-sharing for repair of equipment shared among budgetary units.
2. Consider matching (cost sharing) maintenance programs with investigators or departments (e.g., 50:50).
3. Computer support for research programs should be formally defined, particularly in the new research facility.

Teaching Facilities

Current Status

There are many facilities which are excellent, but enhancement of some programs will require additional teaching laboratory space. The UCONN2000 initiative has resulted in the upgrading of numerous classrooms.

Strengths

There are high-tech classrooms in the White Building, a new computer laboratory, and wet laboratories available for teaching. The library has recently been renovated as part of the UCONN2000 project. Farm facilities are close to campus and provide an excellent hands-on opportunity for students to learn agricultural skills and obtain experience with animals. This was noted as a positive aspect of the Department by many students.

Opportunities for Improvement

The equine center is excellent but has no formal classroom area, so it would be beneficial if a classroom area could be developed at the riding center. There was discussion about putting in a flexible instructional area in the entryway to the center.

A food microbiology class requires a BL-2 level laboratory, but it is not available. To date the class has been taught in a research laboratory but the popularity of the class exceeds the space. An appropriate student laboratory needs to be developed to support the department's food safety initiative. Perhaps collaboration with microbiology and cell biology on campus would be another temporary solution.

Recommendations

1. Use the lobby area at the equine center as a classroom that could be converted back to open space when classes are over and until a more permanent solution can be defined.
2. Seek funding to develop a food microbiology laboratory, to support development of a stronger Environmental Health and Food Safety Program.

Farm Facilities

Current Status

UConn has a new dairy center and a new riding center, but several animal facilities have serious deficiencies. The University has provided \$500,000 to consolidate the two poultry facilities. This will upgrade part of the facilities and save some travel time, but may expose

stock to biosecurity problems. Farm work is supported by use of work study and other students which is a great learning opportunity.

Strengths

The proximity of the farms to the core campus is a tremendous asset, and relatively uncommon at New England and other Land Grant Universities (LGU). UConn has some of the most comprehensive farm support facilities among the New England LGU, offering dairy, poultry, horses, sheep, swine, and beef cattle. It is easy to let old facilities fall into disrepair, but housekeeping at all farms and facilities was excellent and shows the tremendous pride everyone has in maintaining a high quality program. All department members and students should be commended in this area.

Opportunities for Improvement

All poultry facilities should be upgraded to meet regulatory compliance. A problem at all of the farms, and identified by several persons, was that of routine maintenance such as mowing lawns, snow removal, painting, etc., and the difficulty in getting assistance from university sources for some repairs. This would not be a major problem, but task responsibilities may exceed the time allotments for personnel, and there are some cost issues. Also, these services are provided to other departments for their facilities. Modernizing the manure management procedures would be appropriate given the leadership role of the university in being a model for farmers in the state. It may be advantageous to develop on-site student housing, to maintain a physical presence and to decrease labor costs at the farms.

Recommendations

1. Upgrade the poultry facility.
2. Seek university support for facility maintenance.
3. Upgrade the manure (nutrient) management systems.

Support Staff

Current Status

The current staff at all locations are dedicated and hard working, but challenged to meet increasing demands. The increased enrollment is a positive trend in many ways, but also a significant challenge to all personnel to meet student needs and to maintain the image of the University as a preferred choice of higher education. There is a need to explore funding for additional technical support personnel to support extension, teaching and research.

Strengths

The department has a collegial working environment and relationship between members. Students and faculty are highly complementary of personnel at all levels, with no significant or unmanageable problem areas.

Opportunities for Improvement

UConn could enhance research productivity by providing hard money for research and other support technicians. Reclassifying office staff positions to allow greater flexibility and effectiveness in completing tasks would reduce current and future frustrations. It may be prudent to hire a full-time individual to coordinate farm operations, to relieve pressure from the chairperson, and to more effectively address regulatory compliance issues. Enhancement of student labor budgets for the farms would be appropriate given the increased workload expectations.

Recommendations

1. Consider the possibility of allocating resources creatively within the college to encourage and reward initiatives aligned with the College's mission. For example, modification of personnel assignments and upgrading positions to fit current Department and College requirements.

RESEARCH PROGRAMS

Biotechnology

Current Status

The biotechnology research program in somatic cell animal cloning and animal transgenics is currently the major research program in the Department based on extramural support. This program has developed rapidly (7 postdocs, 14 graduate students, 6 undergraduate students) under the direction of Dr. Jerry Yang. Dr. Yang should be commended for his highly successful efforts and for establishing a large number of collaborations, both internal and external, that further strengthen a leading program.

Strengths

The Department has a nationally and internationally recognized leading program in animal transgenics and somatic cell animal cloning. Their program compares favorably with leading peer programs (Roslin Institute, Edinburgh; University of Massachusetts/Amherst; Texas A&M University; University of Missouri; University of Georgia; Tufts University). Efforts are focused on several species of value to animal agriculture and have cutting edge applications in animal and human health.

Opportunities for Improvement

The first challenge is the need to fully establish the multi-disciplinary, multi-departmental Center for Regenerative Biology (CRB) in the new Agricultural Biotechnology Building. Completion of the AgBiotech Building II will relieve some internal space allocation pressures and should continue to be a high priority. There is also the need to implement adequate CRB program management and staff hiring decisions, and to work out the organizational details of cohabitation in these facilities. While a strong biotechnology program is important, the effect on other aspects of a balanced Department must be considered.

While the new building is a strength regarding the ability to network, it also reduces contact with traditional peers. Support and sustaining student and faculty participation with all departmental functions/activities despite geographical separation may be a significant challenge. There is also the need to integrate the CRB and departmental research and graduate training activities. Additional course offerings at the undergraduate and graduate level by new and existing CRB faculty should be offered in ART's, animal genetic engineering, stem cell biology, animal developmental biology, etc. Such offerings will solidify the reputation of the department by enhancing the breadth and quality of education in this area. Also critical to their success is the establishment of synergistic research relationships between CRB and industry (established and biotech start-up operations).

Recommendations

1. Support establishment of a fully functional CRB.
2. Expand graduate course offerings in support of biotechnology research program.
3. Ensure the Department maintains a balanced and equitable support of all programs.

Physiology

Current Status

The physiology research program is characterized by three distinct focal areas: lactation physiology, reproductive physiology, and growth physiology. Physiology has historically been an active area of research in the Department. With continued departmental support and faculty effort, this program should be sustained.

Strengths

Reproductive physiology has been an area of historical research strength for the Department and should remain so, while growth physiology is an emerging area of research strength. The Department has gained international recognition from its pioneering work in reproductive biotechnology (e.g., animal cloning and transgenics). Evidence of continued excellence is that graduate student enrollments/studies have increased due to program reputation, with little overt recruitment effort.

Opportunities for Improvement

Maintaining faculty funding competitiveness and research productivity may be affected negatively, given extensive and increasing teaching and service activities. Teaching loads could be reduced and research time increased by the addition of new faculty in response to increasing undergraduate enrollment. Providing additional research technicians at various points in the Department may also prove a positive influence on departmental productivity and ability to successfully compete in the granting process.

Recommendations

1. Encourage and support efforts to secure future individual and programmatic research funding.
2. Provide additional technician support.

Center for Environmental Health

Current status:

The Center for Environmental Health was established in 1986 to foster interdisciplinary activities to solve problems of environmental health within Connecticut and to bring diverse groups together with common concerns for the environment. The Center originally consisted of three faculty members, one technician and an administrative support person. With retirements, it now consists of one faculty member. The strength of the Center presently is the emphasis on new vaccine technology.

Recommendations

1. The Department should consider combining the Center for Environmental Health with the food science/safety research emphasis of some faculty, and perhaps rename the CEH the Center for Environmental Health and Food Safety.
2. The addition of a new faculty line (e.g food toxicology) would allow the Center to grow to include additional faculty members present in the Departments of Animal Science, Nutrition, and Molecular and Cell Biology to become the Center of Environmental Health and Food Safety. This position could be configured to include a research and teaching component. Unique strengths of a newly configured Center would be the potential emphasis on food products of animal origin, which is not represented in other food science programs in the Northeast. Additionally, it might be possible to house an interdisciplinary graduate program in the area of food science that could serve the strong food processing industry in Connecticut, create partnerships with shareholders, other departments in the College, University and New England.

Meat Science and Food Safety

Current Status

Current status of this focus group is characterized as just short of critical mass. The group is composed of three Animal Science faculty members whose effort totals 2.0 FTE research and 1.0 FTE teaching. Two faculty members are located in the George White Animal Science Building, and one is housed in the Agricultural Biotechnology building nearby. It appears that research laboratory facilities for these faculty members are adequate, and complementary. Research expertise in the areas of meat science, meat microbiology, chemical carcinogens and animal viruses are represented and constitute critical elements of a food quality and food safety focus. Interaction among the three faculty members is excellent. These three faculty members teach a total of eight undergraduate and two graduate courses that contribute to the food science and food safety focus. This multi-discipline area of education is supplemented with courses in Environmental Sciences, Nutritional Sciences and the basic biological sciences. It should be recognized as a recently emerging area of needed training to serve the large and diverse food industry in Connecticut. The placement record of undergraduate and graduate students trained in this program area is commendable.

Strengths

Strengths of this section of the Department include outstanding efforts in acquisition of extramural support for research, teaching and extension programs. National and international recognition of contributions in meat science and food safety is evident. Extramural research support totals \$1,710,000 over the last five years, albeit with one faculty member's contributions being limited to only two years, which is the tenure of his appointment. Teaching grant support exceeds \$80,000, and extension extramural support exceeds \$30,000 during the last five years. Accomplishments are noteworthy because acquisition of extramural support was achieved despite lack of a critical mass of faculty members in the areas of effort. Scientific accomplishment record of the three faculty members is exemplary: four peer-reviewed publications per person per year, plus a total of seven book chapters and over 40 abstracts of papers presented during the last five years. The number of invited presentations is also noteworthy.

Opportunities for Improvement

The review panel recognizes that the research areas of each faculty member in the group complement each other. Together, they represent a near critical mass to provide a highly visible, high impact focus in meat safety and environmental health. The critical areas of research conducted include the following:

- 1) mechanisms by which pathogenic food-borne microorganisms survive environmental stress,
- 2) characterization and control of chemical carcinogens and animal viruses, and
- 3) biochemical aspects of lipid and myoglobin oxidation and associated effects on meat quality and shelf life. A "Center" focus on Environmental Health and Food Safety would highlight the efforts of this faculty group, enhance their viability in competition for extramural support and potentially attract more graduate and undergraduate students to the University.

The three faculty members already teach courses that contain complementary subject material that supports viable components of food science and food safety education for the livestock and food industries in Connecticut. Bringing them together with the addition of a toxicology contingent is deemed an important opportunity for enhancement.

Recommendations

1. A new food toxicology research and teaching faculty position should be created in the Department of Animal Science to provide a missing critical component of the environmental health and food safety program at the University of Connecticut. This will enhance viability of research and teaching efforts and provide a critical mass for a nationally recognized concentration in food safety.
2. The Center for Environmental Health should be renamed the Center of Environmental Health and Food Safety, with the nucleus composed of these four faculty positions.
3. Two essential elements are missing from the existing food safety teaching effort, and are needed to support a new center. These are a well-equipped microbiology laboratory with adequate biosecurity capabilities or features, and financial support for teaching the food microbiology undergraduate course. Both are desperately needed.
4. The scarcity of meat science, meat/food safety and environmental health programs in New England and the Northeast is a compelling reason for protecting, sustaining, and upgrading this program at the University of Connecticut. Excellent faculty members are providing outstanding contributions to undergraduate and graduate training, but the missing critical elements will be requisites to continued success, growth, and retention of these faculty.

Nutrition

Current Status

The nutrition program is small and productive. It consists of two faculty members that have three way splits (teaching, extension and research). One of these faculty members has been at UConn for only a month or two and her teaching assignment has not been determined at this time. The other faculty member has an 85% extension, 15% teaching/research split and has taught courses in the Ratcliffe Hicks School, at the undergraduate and graduate levels and advises undergraduate students. In addition to her very productive dairy extension program, she has established a productive and funded research program and is training graduate students.

Strengths

The faculty members are dedicated to their students, clientele groups and research programs. The new hire of a horse nutritionist will assist the department in gaining more of a balanced nutrition program containing both a monogastric and ruminant focus.

Opportunities for Improvement

The course work for a graduate student in nutrition is limited. While this forces the student into other important collateral courses such as endocrinology and growth biology, it does limit the breadth of their programs. It is difficult to see how this can be rectified with the limited numbers of faculty and with faculty who have three way split appointments.

It is unlikely that productive personnel can continue to be so without some alteration in their workload or support. The Department risks losing a valuable faculty member unless some alterations in workload occur.

Recommendations

Careful discussion regarding equitable distribution of teaching assignments should occur to ensure continuation of the program and success of the faculty. The necessity of reviving the equine nutrition course for the strengthening of the equine program versus the balance of responsibilities between the two faculty members should be carefully evaluated.

TEACHING PROGRAMS

Undergraduate Education

Current Status

There are currently about 245 undergraduates enrolled as Animal Science Majors. In addition, about 32 students are enrolled in the Ratcliffe Hicks two-year AAS program that is participated in by faculty within the Department. This enrollment represents more than a 43% increase during the last three years reported. The increase can be ascribed to:

- i) the overall increase in enrollment at the University,
- ii) an increased interest in animal sciences among the students in general,
- iii) the enormous efforts on the part of the faculty and
- iv) the leadership of Ian Hart and Cameron Faustman and also, perhaps,
- v) the high profile of research programs based in Animal Science.

The Department has experienced a rejuvenation since the last outside review in 1992 and the future looks promising.

The Ratcliffe Hicks program is supported by an endowment presented to the College of Agriculture in 1941. The department participates in this program together with Plant Sciences and a substantial sum is available to run the program. About half the students in the program go on for four-year degrees, but many take 4.5 years due to the difficulty obtaining the general education requirements. The department believes that this program is a good way to capture many "hands-on" type students and late bloomers who go on to contribute significantly to agriculture.

Strengths

The Department of Animal Science offers an extraordinarily diverse set of courses available for undergraduates, particularly when considered in light of the relatively small number of faculty members in the Department. This diversity is partly due to the many interests of the faculty members, and is likewise inherent in the field of Animal Science. This situation is a strength, because it allows students to be exposed to a variety of animal systems in their undergraduate careers and to subsequently specialize in their graduate careers if they so choose. As a consequence of the variety of "options" as described in the undergraduate handbook, a broad range of academic plans are available, with individual curricula chosen based upon the student's interests.

The faculty considers the undergraduate mission to be extraordinarily valuable to their research and teaching mission. When queried, several faculty members noted that they had added teaching responsibilities to their load when course deficiencies were detected in the curriculum. Such willingness to go the extra mile is not a universal trait in research departments and the faculty should be commended for their commitment to the undergraduate students.

The department does a good job with student recruiting. Recruitment is done in part through the FFA and 4H organizations throughout the state. A web site has been developed and is visited by the majority of students enrolled. Eighty percent of the inquiries concerning admission to the undergraduate program came via this site. Faculty made it a point to communicate to interested students via e-mail even before they entered the university as freshmen. A variety of fellowships are available to attract students. The Department publishes an Undergraduate Handbook to assist incoming and continuing students to understand the options available to them, and University requirements. This Handbook is a model that other Animal Science Departments could follow.

The teaching facilities seem quite good to excellent with up-to-date hi-tech classrooms available that are in demand by the faculty. Eight courses are listed in the University's virtual classroom, and technology is well and enthusiastically incorporated into the teaching programs. Many of the Animal Sciences laboratories, classrooms and offices seem to have been recently renovated and this adds to the attractiveness of the department as a whole.

In the day to day advising, the faculty has an open door policy to students which, according to the undergraduate students interviewed, gave the Department a unique friendly feel. That feel is amplified by the Department's practice of sending out monthly e-mails containing practical information and reminders. A great deal of enthusiasm was detected by the Review Committee among the undergraduates concerning the number of shows, events, practical demonstrations and opportunities to demonstrate animals or participate in community activities provided by the Department. In addition, opportunities seem to abound for undergraduates to interact both in a research capacity and in work experience and extracurricular activities. As many as eighty undergraduates are employed by the Department to help care for animals and perform other tasks. The Department of Animal Science is to be commended for encouraging their undergraduates to participate in outreach functions including extension, 4H and other community projects.

The Department has also taken the lead in developing a "writing across the curriculum" program. For example, some faculty members teamed with Lynn Bloom, who holds the Aetna Chair of Writing at UConn to produce a handbook for Animal Science students entitled "Improving Student Writing in the Agricultural Sciences". This is not a simple pamphlet but is a 96 page manual that has been used in W courses and FYE courses in Animal Science. Such an effort reflects the serious intent of the Department to provide students with resources and training for their scholarly development.

Opportunities for Improvement

The influx of new students has produced some strains on the teaching facilities of the Department. At some point, an increase in undergraduate teaching commitment will work against the research thrust of the College and University. The administration should recognize that, due to the hurried increase in undergraduate enrollment in the last few years, additional faculty positions should be added to handle the increased course enrollments. Some strains are already affecting the ability of faculty members to offer laboratory based courses despite the fact that existing laboratory facilities have been recently renovated. For example, Dr. Venkit's course in Food Microbiology cannot be offered appropriately since no dedicated BL-2 student laboratory is available. To his credit, Dr. Venkit initially offered the lab section in his own laboratory space, but this option becomes untenable as enrollment increases.

Some concern was expressed that the advising system for undergraduates and graduate students currently in place may need to be revamped to deal with increasing student interest. It may be important to reevaluate the current system and identify mechanisms and personnel to more effectively handle this responsibility.

One obvious area that needs to be addressed in the near term is the paucity of funds designated for teaching support. Anecdotal evidence suggests that the College or University is not providing support for the undergraduate teaching laboratories. In one instance, a faculty member who has offered a long-standing course in animal handling and surgery had a difficult time getting funding for the course, mainly due to changes in the way *per diem* costs are charged for any animal at the University. This occurred despite the popularity of the course and the fact that it was filled to capacity. The Department Head subsequently had to piece together \$750 donations from several sources throughout the University in order to support the course. It is not clear to the Committee why any faculty member must beg to offer what is generally agreed to be a valuable course for the major. It is a waste of resources and time and adds to a loss of empowerment of faculty, that should not exist in an institution of higher learning. The suggestion was made that perhaps a two tier system of *per diem* charges would provide a reasonable rate that would allow courses to be taught.

Most of the options available for undergraduate education in Animal Science are indispensable for a viable program. The number of options available is quite large and each leads to a BS in Animal Science. However, there are vastly different levels of rigor required in the different options. The Department should consider balancing the requirements for the different options.

There appears to be considerable interest by students in non-traditional animal management areas that includes behavior and companion or specialty use animals. One question raised regards the extent to which a companion animal program is currently supported in the Department. The question concerns whether or not scarce resources should be committed to such a program. To some degree the desirability of such a program depends on the level at which it is presented. A suggestion was made that a two-year program be considered perhaps in conjunction with the Ratcliffe Hicks program. The result will probably be an increase in enrollment with some spillover to the four year programs in the college. If the Department chooses to pursue such a program area however, it is important to ensure that it is instituted with an eye to providing sufficient expertise to offer the course and rigor in its presentation. Additionally, professional animal handling certification options should be considered as part of the curriculum.

It may be argued that the equine program is perhaps the most applied course of study and also one that has a significant allocation of resources. However, the program is one of the more visible outreach components in the Department and as such serves an important function for the Department when viewed holistically. Indeed, it seems likely that without the equine emphasis, a good deal of fund raising efforts would not be possible. As an applied program, much of the instruction occurs within the precincts of the horse barn. One area for improvement would be to incorporate some teaching facilities within the horse barns themselves, or sufficiently close to allow direct contact with the subject. A suggestion is to install teaching facilities within the lobby area of the new arena building.

Recommendations

1. Provide a dedicated BL-2 student laboratory for specialty microbiology classes.
2. Reevaluate the current undergraduate and graduate advising system and identify mechanisms and personnel to more effectively handle this responsibility.
3. Provide sufficient funds for teaching support.
4. Continue the undergraduate recruitment efforts.
5. Provide firm support for the current and proposed two year degree options.
6. Consider the possibility of allocating tuition dollars to reflect student credit hour production, research efforts and productivity, special class needs, etc.

Graduate Program

Current Status

The enrollment in the Graduate Program in the Department of Animal Science has increased over the past few years from 16 in 1996 to 41 today. The program is diverse, with graduate

students pursuing research in areas such as reproduction, animal growth, ruminant nutrition, poultry physiology, food science, transgenics, immunology and animal genetics. This diversity reflects the interests of the faculty members and the diversity of areas within the Animal Science disciplines. It also creates challenges in the standardization of expectations of the graduate programs and numbers of students to allow adequate course offerings. The limitation to enrollment of additional students is assistantship dollars and FTE's. Laboratory and animal facilities have been recently modernized and provide an excellent environment for the conduct of their research.

Strengths

The strengths of the graduate program include the recruitment of a graduate student population from outside the University of Connecticut. This is evidence of the national reputation of the faculty. The balance of masters and doctoral students is excellent and the level of stipends available is highly competitive as compared to others in the country. Because the faculty have diverse and extensive interdisciplinary and cross college relationships the graduate students have the opportunity for a broad exposure to other research programs. Graduates of the program are hired into positions in academia and industry. The Department has recognized the need to maintain interactions between members of the Department who are housed in different buildings by creating a departmental seminar program. This is an excellent idea and others like this should be considered and implemented. The graduate students are encouraged to attend and allowed to meet with invited speakers for lunch. The introduction of a professional presentation course is an excellent addition to the graduate curriculum.

Opportunities for Improvement

There appears to be confusion among the students about the requirements and policies in the Department. The faculty recognizes this issue and is working to create a Graduate Handbook that outlines expectations for research and teaching, and the procedures and timelines for successful completion. Communication between the Graduate Affairs Committee and graduate students should be enhanced, particularly in the area of teaching assistance assignments. Additionally, graduate student representation on the Graduate Affairs Committee and other departmental committees might be considered. The faculty might consider a longer term for the Chair of the Graduate Affairs Committee to promote continuity in the program.

A formal evaluation process should be considered in which the undergraduates and faculty members provide constructive input to the TA, perhaps in the form of faculty or student evaluations. This should enhance the learning experience and development of teaching skills of teaching assistants.

To enhance the interaction between faculty and graduate students in the Department, a graduate student symposium might be considered, perhaps organized and presented by graduate students. This would provide a mechanism by which graduate students interact with

the faculty and each other and showcase the research that is conducted in the Department. This type of seminar program is also a good way to encourage graduate students to initiate the concept of collaborative efforts.

Small numbers of students can result in limited course offerings or limited course enrollments. While the University does provide excellent course opportunities, the Department must provide some advanced training in discipline areas. Courses that can serve multiple disciplines should be considered in the development of future courses.

Recommendations

1. A Food Science/Food Safety graduate degree program should be considered using expertise found in Animal Sciences, Nutrition, and Molecular and Cell Biology. This program would be unique in the Northeast because the meats area is not well represented in other Food Science programs.
2. The new faculty positions in the Center for Regenerative Biology should be encouraged to contribute to the undergraduate and graduate program through the development of new courses.
3. Consider a longer term for the Chair of the Graduate Affairs Committee, to promote continuity in the program.
4. Create a formal evaluation process in which the undergraduates and faculty members provide constructive input to the Teaching Assistant.
5. Complete work on the Graduate Handbook as soon as possible.

EXTENSION

Current Status

The extension/outreach/public service activities of the Department are carried by many of the teaching and research faculty having a split appointment. Farm management staff also provide educational programs in livestock, poultry, dairy, horse, and food science for the citizens of Connecticut. Because of relatively short distances, and many clientele businesses that cross state lines, many programs attract audiences from other states and in some instances, programs are taken to other states by Department faculty and/or staff.

Three extension specialists in the Department carry the formal extension program with a combined extension effort totaling 2.25 FTE, which includes the poultry, dairy and horse program areas. In addition, farm managers at the research farms maintained by the department are also involved in extension programs for both youth and adult audiences. While these activities are not a formal part of their position as farm manager, they are effectively "extending" the Department's land grant mission to the people of the state.

Strengths

Much of the strength of the outreach program in the department is directly attributable to the faculty and staff that are willing and quite able to provide outreach programs to clientele in the state and beyond. The willingness of faculty and staff to bring research based information to the citizens of Connecticut should be commended. These efforts augment and complement the formal extension program by bringing information to the citizens of Connecticut.

Extension specialists have programs primarily in three commodity groups. These commodity groups are: poultry, the most valuable animal agricultural commodity in the state; dairy, the second most valuable animal agricultural commodity in the state; and horses, a very popular domestic animal in Connecticut, found on many small or hobby farms throughout the state.

The extension faculty is comprised of one faculty member in each professor class (Full, Associate, and Assistant), with each recently appointed into their current rank. The Poultry and Dairy specialists have well established programs that are well received in the state and beyond. Each works with other commodity related extension personnel in other states or with the county based Cooperative Extension Educators in the regional extension centers across the state. The Horse specialist is a recent addition to the faculty (2 months) and appears to have her program well in hand. In addition, the currently very active horse program will help this new faculty member become well established.

Each specialist works with commodity leaders in the state and/or region to plan and provide programming that is of interest to industry audiences. This team approach to programming makes it timely, effective and well received by clientele.

It is apparent that at this time, travel, service, and supply funds are adequate, but that technical assistance support for extension programs is not sufficient. While no formal interstate program was noted, specialists are able to cross state lines for programs and client calls without problems.

The outreach/extension program has a great deal of youth activities with formal 4-H and FFA meetings, contests, and judging events. For these programs, extension specialists or farm managers act as superintendents, providing the subject matter expertise for the program. A number of students help in most of the aspects of these events. Animals from the herds and flocks maintained by the Department are used in the events in facilities maintained by the Department. This level of commitment to youth programs is relatively atypical of most departments around the country, but works very well here and should be commended. In recent years, increases in undergraduate student enrollment in Animal Science can be attributed in part to these programs.

Opportunities for Improvement

The livestock extension specialist recently retired leaving a "hole" in a formally active livestock program. A portion of this program area has been picked up by the livestock farm manager but much of the expertise and active program have been lost.

Even though livestock (cattle, sheep, and swine) are relatively small commodities in the state, there is a considerable number of youth and small farm audiences that will greatly benefit from Extension's educational programs. The livestock farm manager is now back-filling a portion of the program, the permanent loss of this position would be a great loss to small livestock producers, youth audiences, extension programs, and the department as a whole if this position is not rehired. It may be necessary to consider formalizing a multi-state role for this extension position.

New program delivery methods have become available such as web page and Internet program delivery, as well as distance education and other new and emerging technologies. Specialists are finding themselves becoming more active in these areas, however supporting expertise in the department is minimal. In addition, there is minimal help to accomplish the clerical tasks such as maintaining mailing lists, publications, etc. Currently, specialists are spending much of their time in tasks that could be done more efficiently by a program assistant, including maintaining mailing lists, web site maintenance and newsletter preparation. Considering that these specialists are involved in statewide programming with youth, adult, and industry audiences, as well as a relatively high teaching load and scholarly production, help of this kind is imperative if the programs are to be maintained and even expanded.

Each of the specialists has a three way split appointments with between .15 and .35 in research and teaching, and extension the balance. With the loss of the livestock specialist, the teaching burden will only increase, not only on the extension faculty but on the remainder of the department. With the increased load of teaching, simply due to the increased number of students in the department combined with the loss of a faculty member, continuation of the current level of programming will be difficult. In addition, there have been changes in the poultry industry in the region with the loss of a major company to the southeast, so probable changes in the types of programming will be necessary.

The promotion and tenure requirement to produce scholarly products through research or through other sources have created some concerns by faculty. Faculty should be provided the opportunity to have their scholarly activities judged under the new scholarly guidelines as developed at Oregon State University (OSU). Promotion and tenure requirements should accurately reflect position responsibilities. While the administration has embraced the OSU model for extension scholarly achievement, this needs to be communicated to all of the faculty and persons on promotion and tenure committees in the university, not just Department faculty. In addition, a peer review system for Extension publications similar to that used by Mississippi State may prove beneficial. This will provide the incentive for specialists to provide the citizens of Connecticut with the full level of their extension FTE.

Recommendations

1. The College and Department should consider rehiring for the vacant livestock extension specialist position. It may be necessary to consider formalizing a multi-state role for this extension position.
2. Provide Program Assistant help for the specialist group.
3. Care must be taken to assure tenure and promotion for extension specialists reflect appointments.

APPENDIX A

ANIMAL SCIENCES DEPARTMENT

CSREES PROGRAM REVIEW SCHEDULE

Sunday, October 28, 2001

- 3:00 Organizational Meeting for Review Team and Department Head
- 4:45 Travel to Depot Restaurant

5:00 Social Hour with Administrative Personnel (Karla Fox, Fred Maryanski, Suman Singha, Ian Hart, Dean Kerr, Cameron Faustman, Rebecca Chew)

6:00 Dinner for Reviewers

Monday, October 29, 2001

8:00 Welcome, John Petersen, Fred Maryanski, Karla Fox, Suman Singha, Ian Hart, Dean Kerr, Rebecca Chew

9:15 Team Meeting with Department Head, Cameron Faustman and others

10:00 Tour of Facilities, Cameron Faustman and others

11:15 Farm Managers, John Bennett, Arnie Nieminen, Randy Knight, John Wheeler

12:00 Lunch with Graduate Students

1:00 Break

1:15 Horse Program, James Dinger, John Bennett, Janice Callahan, Kathleen Pelletier, Jen Nadeau

2:00 Discuss Research Program, Cameron Faustman, Kumar Venkit

3:00 Break

3:15 Discuss Research Programs, Fulian Du, Larry Silbart

4:30 Open Session, Any Faculty

5:15 Dinner with Deans, Kirklyn Kerr, Nancy Bull, Derek Allinson

6:15 Work Time

Tuesday, October 30, 2001

7:00 Team meeting

8:00 Graduate Focus, Ian Hart, Jim Henkel, Pam Roelfs

9:15 Extension Faculty, Mike Darre, Jen Nadeau, Shelia Andrew

10:45 Break

- 11:00 Recruitment and Undergraduate Advising, Steve Zinn, Shelia Andrew, John Riesen, Cameron Faustman, et al.
- 11:30 Lunch with Graduate Students
- 12:30 Break
- 12:45 Discuss Research Programs, Gary Kazmer, Bob Milvae, Steve Zinn, Tom Hoagland, John Riesen, J. McCracken
- 2:45 Break
- 3:00 Teaching Faculty, Larry Silbart, Bob Milvae, John Riesen, Cameron Faustman, Tom Hoagland, et al.
- 4:00 Administrative Support, Jennifer Simoniello, Wendy West
- 4:30 Open Session, Anyone who wishes to speak to the team members
- 5:00 Dinner, Team only
- 6:00 Work time

Wednesday, October 31, 2001

- 7:00 Hotel checkout and team meeting
- 8:00 Exit Report to Administrators, John Petersen, Fred Maryanski, Karla Fox, Ian Hart, Suman Singha, Dean Kerr, Cameron Faustman, Rebecca Chew
- 8:45 Transfer to White Building
- 9:00 Exit Report to Faculty
- 10:00 Depart to airport

University of Connecticut participants include:

John Peterson, Chancellor
Fred Maryanski, Vice Chancellor for Academic Administration
Karla Fox, Associate Vice Chancellor for University Affairs
Suman Singha, Interim Vice Provost for Graduate Education and Dean of the Graduate School
Ian Hart, Interim Vice Provost for Graduate Education and Dean of the Graduate School
Kirk Kerr, Dean of the College of Agriculture and Natural Resources
Jim Henkel, Associate Vice Provost, Research and Graduate Education

Nancy Bull, Associate Dean for Outreach and Public Service and Associate Director,
Connecticut Cooperative Extension System
Cameron Faustman, Animal Science Department Head
Pam Roelfs, Director, Office of Institutional Research
Rebecca Chew, Program Assessment Coordinator

APPENDIX B

Administrative Expectations of the CSREES Review

1. How does the Department compare to peers?
2. What is the Department doing well?
3. What can the Department do better in the future? Need to do?
4. What should the Department not be doing?

5. What is a good direction for the future? Is there a plan?
6. Are the physical facilities adequate, what needs to be improved?
7. Is the faculty start-up package competitive?
8. What is the general level of contentment of students?
9. Is the work load of faculty appropriate? What is appropriate (R, T, E)?
10. Does the faculty need more resources?
11. Is the faculty reward system appropriate?
12. What are pressure points that inhibit enrolling more students?
13. Is advising appropriate? Are students satisfied? If not, why not?
14. In the decentralization process, is there the correct balance of responsibility and authority and University support?
15. How can we improve our ability to create and maintain team work at all levels (faculty, undergraduate and graduate students)?

TEAM RESPONSES

1. How does the Department compare to peers?

The department has made highly significant progress in all areas since the last review and compares very favorably with peer institutions, both actual and those to which they aspire to be compared. The Department and University should be very proud of their accomplishments.

2. What is the Department doing well?

Faculty members are recognized as having made outstanding contributions in the areas of biotechnology, food science, and environmental health. In the area of Extension they effectively cover major livestock species and support youth activities not only in Connecticut but in other New England states. The horse program has shown exceptional progress. Farm crews do an excellent job in maintaining old facilities and support research and teaching programs.

3. What can the Department do better in the future? Need to do?

The companion animal program is necessary for many reasons but the Department lacks the personnel to sufficiently address this area. It is possible that an endowed center similar to the Ratcliffe Hicks program should be instituted so it is self-sustaining and at a sufficient concentration and level of rigor that would allow a meaningful program to be developed. The Department requires sufficient returns on teaching to compensate for increased costs associated with increased number of students. Resources for teaching are insufficient so faculty provide resources from alternative sources. Communications within the Department and to students could be improved.

4. What should the Department not be doing?

Decentralization has resulted in significant paperwork responsibilities for faculty members that takes away from research, teaching or extension activities. This work should be minimized through the administrative support of hiring administrative personnel. Profit from farms drives the success of several departmental efforts and they are perhaps relying on too much on this source of support.

5. What is a good direction for the future? Is there a plan?

The Department follows the University mission statements and goals. This is commendable but requires reciprocal support from the university to accomplish these goals. The Department is committed to quality teaching programs and research efforts. There should be a decision made as to which area should be supported. The committee suggests food science be the next focal point for research hires. Extension efforts are of high quality but regional or multi-state faculty should be seriously considered to meet special needs.

There is a Faculty Advisory Council and a College Advisory board, and eight Extension Councils (corresponding to the eight counties). The University attempts to work with the approximately 180 agricultural-related Boards or Councils in Connecticut. It would be beneficial for the Department to maintain a rotating Advisory Committee having a cross section of clientele.

6. Are the physical facilities adequate, what needs to be improved?

See the main section of the report.

7. Is the faculty start-up package competitive?

The current start-up package for researchers is quite competitive but not out of reason. Previous start-up packages, particularly for Extension, were not sufficient, so progress has been made. It would be beneficial to provide a higher amount for start-up to Extension personnel. It may also be appropriate to provide special field trial or demonstration funds (equivalent to start-up) to Extension personnel.

8. What is the general contentment level of students?

Students recognize how well they are treated, the opportunities they have if they will take advantage of them, and the value of a caring and competent faculty and university leadership. There will always be problems and concerns, particularly with scheduling 70 or more students at the farms and providing support for faculty and graduate students. These comments are noted in the report.

There should be a formal guide dealing with credit requirements, scholarship opportunities and requirements for graduate students. The guide should be one that students can easily follow. Communication is probably the weak link in the system. Encouraging networking and participation in activities such as clubs is another area that could use some added emphasis.

9. Is the work load of faculty appropriate? What is appropriate (research, teaching, extension)?

The faculty work load is not appropriate. This is primarily because the faculty appear to have been put in the position of fulfilling a lot of technical support roles rather than their own job responsibilities. At least one faculty and the Department Chair have had to unnecessarily spend time compensating for inconsistent or non-existent university policy regarding the animal per diem charge issue. Likewise, farm personnel are attempting to compensate for insufficient faculty and youth development personnel and at the same time fulfill their responsibilities. This can not occur in the long term.

From this position, it is difficult to assess what is an appropriate workload. In general terms teaching needs to be fairly allocated based on class size and content. Extension personnel should not have to regularly spend time doing the work of a clerical person due to insufficient staffing. All faculty (and administrative personnel) should consider they are in a position of public trust and act accordingly.

10. Does the faculty need more resources?

See the main portion of the report.

11. Is the faculty reward system appropriate?

We heard no complaints about being underpaid, and find no one is leaving for higher paying positions, so assume the University is within tolerances.

12. What are the pressure points that inhibit enrolling more students?

See the main section of the report. It appears that the University is, or is close to, overextending their capabilities at this time. Departments efforts are increased dramatically when student numbers are increased, particularly in some laboratory classes and in the area of advising. The Department should be compensated for these extra expenses in a manner that is proportional and fair to all. In this way, responsibilities associated with higher enrollments can be properly fulfilled, and students can be provided the assistance they require.

13. Is advising appropriate? Are students satisfied? If not, why not?

See the main section of the report. Additionally, it must be said that given the added responsibilities and insufficient level of technician and other support personnel (or inability to modify position descriptions), the faculty and staff do a remarkable job. All

faculty must pull their share of the load and if not, find ways to properly compensate those who are fulfilling their added responsibilities.

14. In the decentralization process, is there the correct balance of responsibility and authority and university support?

See the main section of the report. Also, the short answer is "no", but with continuing effort (such as asking this question of reviewers and then following through with faculty) to ensure a fair and equitable system, a more appropriate system can be achieved.

15. How can we improve our ability to create and maintain team work at all levels (faculty, undergraduate and graduate students)?

Communications and mutual respect are probably the most important. These might include frequent, honest, problem solving communications, with consistent follow-through, or a reason why resolution of a problem was not possible. Frequently, each component of the University system should show the others (students, staff, faculty and administrators) that they care about the products (students, research, Extension projects) and that the image of UConn is very important. If there is a problem, then it should be fixed to the extent possible, communicated to all involved, then revisited as is necessary. Each day, all personnel must be part of the team. So far, most people at UConn do a good job at trying to fulfill these goals.

Student clubs should be inclusive, and faculty advisors should be given some reward or recognition for attempting to facilitate these projects. Bottlenecks to developing positive interactions should be dealt with quickly, decisively, and effectively. This is one responsibility of administrators at the University, College and Department levels.

APPENDIX C

SUMMARY OF MAJOR RECOMMENDATIONS

Facilities and Resources

Research Facilities

1. Develop policy for cost-sharing for repair of equipment shared among budgetary units.
2. Computer support for research programs should be formally defined, particularly in the new research facility.

Teaching Facilities

1. Use the lobby area at the equine center as a classroom that could be converted back to open space when classes are over.
2. Seek funding to develop a food microbiology laboratory, which will further support development of a strong Environmental Health and Food Safety program.

Farm Facilities

1. Seek university support for facility maintenance.
2. Upgrade the manure (nutrient) management systems.

Support Staff

1. Provide more technicians and support staff to optimize efficiency of all personnel.
2. As is appropriate, reclassify office positions to allow greater flexibility and effectiveness.

Research Programs

Biotechnology

1. Support establishment of a fully functional Center for Regenerative Biology.
2. Ensure the Department maintains a balanced and equitable support of all programs.

Physiology

1. Encourage and support efforts to secure future individual and programmatic funding.
2. Provide additional technician support.

Center for Environmental Health

1. Consider combining the Center for Environmental Health with food science/safety efforts, and perhaps rename the CEH the Center for Environmental Health and Food Safety.
2. The addition of a new faculty line (e.g food toxicology) would allow the Center to grow to include additional faculty members present in other departments.

Meat Science and Food Safety

1. A new food toxicology research and teaching faculty position should be created in the Animal Science Department to provide a missing critical component of the environmental health and food safety program at the University of Connecticut.
2. Two essential elements are a well-equipped microbiology laboratory with adequate biosecurity capabilities or features, and financial support for teaching the food microbiology undergraduate course. Both are desperately needed.

Teaching

Undergraduate

1. Reevaluate the current undergraduate and graduate advising system and identify mechanisms and personnel to more effectively handle this responsibility.
2. Allocation of tuition dollars to reflect student credit hour production, research efforts and productivity, and special class needs.
3. Provide firm support for the current and proposed two year degree options (Animal Science; Companion/Laboratory Animal Science).

Graduate

1. Consider a longer term for the Chair of the Graduate Affairs Committee, to promote continuity in the program.
2. Complete work on the Graduate Handbook as soon as possible.

Extension

1. The College and Department should consider rehiring the vacant livestock extension specialist position.
2. Provide Program Assistant help for the specialist group.