

THE HEBREW UNIVERSITY OF JERUSALEM

**Department of Animal Sciences
Robert H. Smith Faculty of Agriculture
Rehovot Campus
&
Animal Related Programs
The Alexander Silberman Institute
of Life Sciences, Edmund J. Safra Campus**

April 2009

COMMITTEE MEMBERS:

1. Dr. Colin G. Scanes – Chair, University of Wisconsin
2. Prof. J.A.M. van Arendonk, Wageningen University
3. Dr. Harris A. Lewin, University of Illinois
4. Dr. William W. Thatcher, University of Florida
5. Dr. Martin P. Schreibman, Brooklyn College, City University of New York

EXECUTIVE SUMMARY

The Hebrew University of Jerusalem (HJU) established a Review Committee on animal sciences consisting of five scientists from outside Israel, who convened from March 22-25, 2009. They were provided excellent, albeit short opportunities to meet scientists and to tour facilities at two sites: The Department of Animal Sciences in the Robert H. Smith Faculty of Agriculture and animal related components of the Edmund J. Safra Campus' Alexander Silberman Institute of Life Sciences. At the start of the visit, HJU President Menachem Magidor, Rector Sarah Strousma, Vice-Rector Miri Gur-Arye and Professor Eli Friedman transmitted the purpose of the review directly to the Review Committee. They asked for an evaluation of the animal related programs and opportunities for enhancement in the scientific arenas.

The HJU administration was very cognizant of the importance and broad significance of animal sciences and animal related programs. The first portion of the review focused on the Department of Animal Sciences in the HJU Faculty of Agriculture – the only agricultural faculty in the entire State of Israel. There is discussion of administrative changes and the potential of shifts in the location for the closely aligned programs of the Volcani Institute. The second portion of the review was held on the Edmund J. Safra Campus of the University, with an emphasis on the animal related programs. The report of the review committee will focus on a series of specific recommendations divided between those for the Department of Animal Sciences, those common for all animal related programs, and those for the Edmund J. Safra Campus animal related programs.

RECOMMENDATIONS:

I. DEPARTMENT OF ANIMAL SCIENCES IN THE FACULTY OF AGRICULTURE

A. Organizational and Physical Structures

Overall – the Need for Strategic Planning and Consensus

1. The need for developing a strategic plan that identifies areas in which the Department of Animal Sciences wants to excel in the future and areas where it will engage in collaboration with other partners.
2. It is important that the members of the Department are involved throughout the process of developing the strategic plan to ensure consensus and commitment. It will help them in identifying opportunities for joint research activities and in strengthening the “corporate identity” of the Department of Animal Sciences.

Relationship between the Department of Animal Sciences and the Koret School of Veterinary Medicine at HUJ Faculty of Agriculture

1. The need for integration between the Department of Animal Sciences and the Koret School of Veterinary Medicine is endorsed.
2. The Faculty of Agriculture is encouraged to aggressively move forward with its plans to integrate animal sciences and veterinary medicine, while respecting the unique missions of both units.
3. The name of the new structure was considered as inadequate and inconsistent with the other new institutes on campus. The term “Complex” appears to be a political compromise rather than a visionary programmatic statement. To be on par with the other pillars, and to have a cohesive vision of the programs within the faculty, the name should be changed (e.g. to the Institute for Animal and Veterinary Sciences). The name should reflect the programmatic interface while respecting the unique missions and separate identities of both units.
4. To facilitate collaboration and integration, consideration should be given to locating one or more Animal Scientists in the new Veterinary Science building adjacent to collaborating faculty members and one or more Veterinary Scientists in the new/renovated Animal Sciences building adjacent to collaborating faculty members.

Relationship between the Department of Animal Sciences and Institute of Animal Science in the Volcani Institute

1. The review committee strongly recommends a much closer collaboration with the Volcani animal scientists and those in the Department.

2. The Volcani Institute animal scientists housed on the Rehovot campus should remain there in new facilities. The decision to move them to Beit Dagan should be placed immediately on hold. Many of the Volcani animal scientists have international reputations who already add much to HUJ. Much more is possible, if there is the will.
3. Funds from HUJ for a new building for the Volcani scientists at Beit Dagan should be re-directed to a new facility on the Rehovot campus, preferably to a building linking the Animal Sciences and Veterinary Medicine buildings. Any residual funds should be dedicated to a core equipment facility.
4. Serious consideration should be given to merging some or all the activities of the HUJ Faculty of Agriculture with the Volcani Institute.

Infrastructure

The Department of Animal Sciences should develop a set of investment priorities including facilities, equipment and personnel as part of their strategic plan. This should also consider opportunities for sharing infrastructure with other departments and the Volcani Institute.

Interdisciplinary Research and Teaching

1. The committee recommends that the Department of Animal Sciences establish a task force to examine the teaching and research programs as they relate to interdisciplinary studies, especially but not limited to veterinary medicine. The task force should consist of faculty from Animal Sciences, Veterinary Medicine and other departments (and Faculties) as well as representatives of professional and industry organizations. The charge of the task force should be to develop a plan that identifies grand challenges in animal agriculture and defines the interdisciplinary approaches that are needed to solve these problems. Staff, budget and facility needs should be identified in the report of the task force. This can serve as a basis for curriculum development.
2. The proposal to establish four new virtual Centers to promote interdisciplinary research within the Faculty of Agriculture should be reconsidered. Proposals to establish each of the new Centers should be given rigorous external peer review and funds allocated only to those projects that deal with major problems in a truly interdisciplinary way (including other Faculties, such as Computer Sciences). Funding to each Center must be dramatically increased from \$250,000 to have the desired outcomes and impacts. It is not worthwhile to fund multi-investigator projects at the very low level proposed (\$50,000 per year).

Curricular Issues

Revision of the Animal Sciences Curricula

1. The animal sciences BSc and MSc curricula should be thoroughly revised with input from students and other stakeholders including the agricultural industry and Veterinary Medicine to ensure that the curriculum provides a state-of-the-art training for students with an interest in Animal Sciences.
2. The number of course credits should be reduced to 140.
3. Curriculum has not been reviewed/modified for an extended period of time. A committee of faculty, students and industry representatives should be involved in its revision.
4. Consolidation of courses and the elimination of courses that are not meeting the needs of the animal production industry.
5. A strong program of undergraduate student guidance and mentoring is essential; An office and program to arrange for internships would be very useful and coalesced with undergraduate student guidance.
6. Evaluation of teaching by a peer review committee (including faculty members from other departments) and strategies implemented to improve quality of teaching.
7. Initiate undergraduate research experiences beyond that for only honor students.
8. Establish undergraduate/graduate colloquia.
9. Optimize bio-hazard safety in the Department of Animal Sciences.

External Advisory Board

Establish an industry (stakeholder) advisory board. A formal mechanism should be established to ensure that the needs of the Israeli industry and other stakeholders are linked to the Department of Animal Sciences at HUJ.

Leadership

The review committee sees strong leadership of both departments as the most important factor which will determine the success of the Institute of Animal and Veterinary Sciences. The leadership should point the direction by formulating a joint plan and create additional opportunities by attracting additional funding and ensuring that the entire field of animal and veterinary sciences is covered.

Communication within the Faculty of Agriculture

The establishment of effective avenues of timely communication is vital among administration, dean, chairs, students and support staff.

II. BOTH FACULTIES

1. There needs to be increased collaboration between faculty members for research at both faculties and greater use of e-classes particularly for graduate students at the two faculties and at Eilat to increase the number of specialized courses particularly for PhD students and to enhance HUU's competitive advantage.
2. The faculty should offer an introduction event for new staff members and professional development activities for all staff members. A mentoring scheme is needed to ensure that identified needs for professional development are realized.
3. Activities need to be organized to improve the professional development of graduate students and these activities should be recognized as part of the requirements for a graduate degree.

III. EDMUND J. SAFRA CAMPUS ANIMAL RELATED PROGRAMS

Organization

1. The ILS or Faculty of Sciences should implement a strategic planning process to deal with organizational issues. The process should explore ways to reduce the number of programs and reorganize the ILS administrative structure so that the core missions of the unit can be more effectively carried out.
2. The strategic plan should also explore ways to promote interdisciplinary research between ILS and other departments, particularly those in the physical and computational sciences, and the sister Department at the Faculty of Agriculture in Rehovot. Space should be allocated or created that will house competitively chosen programs that encompass faculty from multiple academic units and different Faculties. Given the great individual excellence of ILS faculty, such programs can enhance funding opportunities and tackle larger scale problems at the organism and community levels. New opportunities for interdisciplinary training of graduate students will also be created.
3. The ILS should explore ways to leverage the Animal Collections resource and update its capabilities for molecular approaches. Greater integration with core ILS programs can be achieved through strategic hiring that takes advantage of this unique resource.

Undergraduate curriculum

There is a need for an undergraduate class to provide students with an appreciation of the diversity within the Animal Kingdom. An existing faculty member could be assigned to teach this class.

Graduate curriculum

Consideration should be given to the development of graduate courses that deal with critical thinking, scientific writing, professional career opportunities in industry, entrepreneurship opportunities, and scientific ethics.

The committee thanks the HUI staff who has provided excellent support to our review efforts, and in particular to Frances Neumark from the office of the HUI Rector.

Improve Professional Development for Graduate Students

The review committee identifies the need to improve the professional development of graduate students. Current student advising appears to be the sole responsibility of individual faculty with whom the student does thesis research, which is supplemented by unofficial gathering of information from fellow graduate students. Professional development activities appeared to be lacking at the unit level. We recommend the creation of a professional development scheme for MSc and PhD students. The scheme should include activities to enhance their development of competences in scientific writing, writing grant applications, project management, and entrepreneurship to increase their breadth of scientific knowledge and to increase their awareness of job opportunities especially those outside research. Possibilities are to assign a mentor – who is not involved in supervision of the research project - to MSc and PhD students to assist in professional development, or have a graduate coordinator within the units to meet these needs. The mentor/ graduate coordinator could draw the attention of students to possible industrial placements or opportunities for spending a period abroad. There is a need for a means for the students to share their experiences with faculty and other students to increase their awareness of developments in adjacent scientific fields. An annual “research day” could help to increase the breadth of their knowledge and should be organized by the students to ensure that it meets their needs. To ensure that the professional development scheme meets the needs of the students it is important that the students, ideally through a graduate student association, as well as former graduates are closely involved in the development of the scheme. Activities to improve the professional development of students should be recognized as part of the requirements for a graduate degree.

Recommendation:

- Activities need to be organized to improve the professional development of graduate students and these activities should be recognized as part of the requirements for a graduate degree.