

Report of the Site Review Team

King Saud University

Agricultural Institute of Canada

June 2010

**Report of the site visitation team King Saud University
College of Food and Agricultural Sciences, May 2010.**

Part 1

1.1 Introduction.

The AIC/OAQ accreditation facility for baccalaureate programs in agronomy at Canadian universities was established in 1995 at the request of the deans of agriculture in Canada. At the time, the deans were aware of the increased mobility of agriculture graduates and wished to establish a quality assurance program to ensure that graduates met national and international standards. This outcome based accreditation facility is designed to ascertain if programs graduate students who meet the skills and knowledge standards of the education requirements for entry into professional practice of agronomy in Canada. It has been successfully utilized in accreditation of programs at all Canadian universities offering agricultural education.

1.2 Accreditation request.

The Agricultural Institute of Canada was requested by King Saud University to evaluate eight programs offered by the College of Food and Agricultural Sciences for substantial equivalence to undergraduate agronomy programs in Canada. These programs are as follows; Plant Production, Plant Protection, Animal Science, Production, Food Science and Human Nutrition, Soil Science, Agricultural Engineering, Agricultural Economics and Agricultural Extension and Rural Society. A site team was assembled, consisting of Dr. Bryan Harvey (chair), Dr. Gaston St. Laurent, Mr. George Jones and Dr. David Chanasyk. Dr. Harvey is Director of Accreditation for the AIC/OAQ and experienced in accreditation. He is an emeritus professor of plant sciences at the University of Saskatchewan. Dr. St. Laurent is also experienced in accreditation including chairmanship of a site visitation team. He is an emeritus professor of animal sciences at Laval University. George Jones is also experienced in accreditation having chaired several site visitation teams. Mr. Jones is a retired agribusiness finance specialist. Dr. Chanasyk is a faculty member at the University of Alberta and a specialist in soil science and engineering. The site visitation took place at Riyadh May 13-20, 2010.

1.3 Site visitation.

The University contact for the site visitation was Professor Abdulrahman Aldawood. The site visitation team wishes to acknowledge the courtesy and efficiency of Dr. Aldawood. The following materials were provided as background information: A self-study report from the University including detailed CVs of all faculty and course outlines for all courses in the programs. We were also given self-study reports for each program under review. We were given access to the University website, which enabled us to gather an overall picture of the institution and its forward plans. Also taken into account were visitations to classrooms, laboratories, University library, the Preparatory Year Centre, and the University farms, where we observed animal facilities for goats, sheep, camels

and dairy cattle and research facilities for field crop and range research. The team also visited a date palm orchard.

A number of interviews were conducted to supplement and amplify the written materials. These included the Vice-chancellor, the Dean and Associate Deans of Food and Agriculture, Heads of departments and senior staff responsible for the conduct of the programs under review, University Library staff, other faculty, alumni, employers and students. The program for the site visitation team is appended to this report.

Part 2

General

2.1. Program Philosophy

The philosophy of the university is to provide distinctive education, produce creative research, serve society and contribute in building the knowledge economy and community through a learning, creative thinking environment, the optimal use of technology and effective international partnership. This philosophy is well articulated in the college plans and administration's wish to have the programs reviewed in order to ensure that they meet international standards is evidence that the university is serious about ensuring the quality of its programs and the students who graduate from these programs. Letters from and face-to-face interviews with senior administrators of the University confirm the University's commitment to the program and concurrence with its philosophy.

2.2. Program Objectives

The program objectives of all eight programs are explicitly stated in the self-study report and are consistent with the philosophy of the program. The programs are regularly reviewed by faculty committees, which include student input, as well as input from non-university sources. Individual courses are regularly reviewed by student evaluations as well as by faculty committees.

2.3. Program Organization

The programs under review are offered by the College of Food and Agriculture but rely on other faculties at the University to provide courses in basic sciences and humanities and specialized areas not available within the college. Responsibility for curriculum development, maintenance and monitoring lies primarily with the faculty of the college. University wide standards must be met in these programs, and ultimately approved by faculty wide curriculum committees. This responsibility is carried out by college faculty committees, which have on their membership representatives of the student body. Proposals and recommendations from these committees are subject to approval by the full faculty Council.

The college indicated that it is regularly in touch with alumni and employers of their graduates to assess their suitability for the workplace and as a sounding board for proposed changes to the curriculum. This was confirmed in interviews with alumni and employers. The university, college and departments are in the process of establishing advisory committees. We commend this move but suggest that taking it all the way to the department level is probably unnecessary and will result in competition for good representatives and if it is not carefully managed conflicting advice. **In addition to what they are doing the College and University may wish to consider the establishment of**

an Alumni Association. This would facilitate ongoing contact with former students and thus keep them interested and supportive of the college's activities and aspirations.

2.4. Accreditation Coordinator

As indicated above, Professor Abdulrahman Aldawood is the accreditation coordinator and has worked with the AIC and the site review team throughout this process. He was designated for this role by the Dean of Food and Agriculture who has ultimate responsibility for these programs. Professor Aldawood was extremely accommodating of the needs of the site review team.

2.5. Faculty

Given the small number of students in the programs the current faculty numbers are ample, resulting in a high faculty to student ratio. The large faculty contingent supports expertise in a wide breadth of subject matter, which can be presented in the curriculum. Review of the faculty CV's indicates that their qualifications and activities are adequate for teaching the programs under consideration. Individual conversations with a number of faculty members also indicate an in-depth knowledge of their subject matter. It is noted that research output is being given a high priority in the University's future plans. We noted that there appeared to be good involvement of students in research projects and utilization of research activities and equipment in the teaching program. Extension and public service are clearly part of the expected activities of faculty members and there is a considerable level of activity in this area. While these latter areas are not directly part of the teaching program they do bear on it indirectly. Active researchers can bring the currency of their research programs to the classroom and enrich the student experience in doing so. It was our observation that students were involved not only in research but also in extension and community service activities, which also enriches their experience and will stand them in good stead when they enter the working world.

We noted that a majority of the faculty had taken their first degree at King Saud University. We support the policy of not permitting a student to take all of their degrees at King Saud University. Diversity in faculty is desirable and thus the University needs to develop a long term strategy to foster such diversity. **We recommend that faculty not take their sabbatical leaves at the institutions where they took their graduate degrees to further the notion of educational diversity.**

The site review team was surprised to learn that career advancement for faculty places less emphasis on teaching performance than on research. In addition, a considerable component of the teaching evaluation is based on quantity rather than quality. The result of this is a need to spread the teaching load simply to ensure that faculty can have it on their record. **We would suggest that the university/college review their policies in this regard so that those who are better at teaching and wish to do so can carry a larger proportion of the teaching and those who are better at research are not penalized for carrying a lighter teaching load.** Graduate training (teaching, committees and supervision) and postdoctoral supervision should be considered as part of the teaching load.

We were pleased to see that faculty members are regularly evaluated by students and at key career points by the dean. These evaluations are used for career advancement and promotion decision making. **We suggest that consideration be given to adding individual teaching portfolios/dossiers and formal peer evaluations to the teaching evaluation process. We would also suggest that ways be found to give department heads greater means of ensuring that faculty members take remedial action when teaching deficiencies are identified.**

It is our understanding that there is no tenure system to protect academic freedom. Conversations with faculty, however, indicated that they do not feel inhibited in expressing their opinions on academic matters and they certainly encourage their students to do so as well.

2.6. -Students

The University requires completion of a high school diploma for entrance into the programs. This requirement is published by the University. Students are now required to take a common first year for science and engineering. We visited the building that houses this program and were impressed with the enthusiasm of the faculty and students and the quality of the facilities. There are advantages to this approach but it means that the students have no formal contact with the college during this program. **We would recommend that consideration be given to including a College of Food and Agriculture Sciences course into this program for students who have identified the college as their choice for enrollment so that these students are exposed to the fields of agriculture and food.** The college is aware of the need to contact students in this program including those who have identified other colleges as their primary choice. It is our understanding that the college of engineering is oversubscribed and thus there is a potential pool of students who could be recruited into College of Food and Agriculture Sciences~~agriculture and food.~~

Counseling of students occurs at several levels. There is a University wide counseling service, which is supplemented by the assignment of students to an individual faculty member in the College of Food and Agriculture Sciences for advice in academic program selection and personal problem solving. In addition, the College of Food and Agriculture Sciences provides more generic advice by way of seminars and open houses to explain college programs and activities. Students commented positively on the high level of availability of faculty members in the college and the close and caring relationship that they have with these faculty members, which extends beyond graduation.

Students are assisted in developing professional attitudes and contacts through field tours and internship programs, and also through charitable student activities. Mentorship and personal examples of dedicated faculty also contribute in this area.

2.7. Resources

As previously indicated, letters of commitment to the program, verified orally by senior administrators, indicate a high level of support for the program. The physical and human resources of the University are extensive and are available to the program. Classrooms and laboratories are adequate for the current level of enrollment. These are all wired for electronic communications. Equipment available in the laboratories is certainly adequate for the teaching of the programs on offer. This is especially true where research and service activities are under way which require up-to-date equipment, which is also utilized for teaching purposes. Some of the equipment is dated and a concerted effort will be needed to stay current. **We noted that in some laboratories dangerous chemicals were stored in breakable containers in open shelving. Hazard information sheets were not readily available in case of emergency. It is our understanding that the university is in the process of addressing their system in this respect and we would encourage it to do so with all due priority.** The University Library has extensive access to electronic databases and scientific journals, as well as a very large collection of hardcopy materials. Accessibility to the library is excellent, as is the service orientation of the library staff.

In addition to on-campus facilities, the University has two research farms, both of which are accessible to students on an ongoing basis. Transportation is provided for the students by the University. The on-campus facilities and these farms constitute a vital part of applied agriculture science programs such as these. One apparent shortcoming is a relative lack of activity in the landscaping aspects of ornamental horticulture on campus and at these farms. The on campus facility is under pressure for building space, which is unfortunate. **We suggest that there is an opportunity to showcase these facilities so that not only would there be university and college pride in them but it would also provide an opportunity to impress the Saudi public with the importance and beauty of agriculture and food.** It could be a destination site which people choose to visit on holidays and other times. It would certainly be an education tool for primary and secondary schools. We would urge the College and University to “think big”.

Part 3

Curriculum

3.1 General.

In the new programs, the initial coursework taken by the students is common to all science programs. During this portion of the program, the students are exposed to coursework in language, social and behavioural sciences, arts and humanities, mathematics and basic natural sciences. These courses are taken alongside students from other colleges in the University. This is good practice and assures the students that they are receiving equitable treatment and quality of instruction. As indicated above, however, it would be desirable for students to be given an introduction to agriculture during this first year. Once they enter the college in the second year, students are exposed to introductory agriculture courses, which provide them with an overall knowledge of the agricultural industry. Specialized coursework in their major is primarily taken in years three and four of their programs and builds logically on the base established in the first two years. Special emphasis is placed on English language proficiency in this common first year program and a couple of students we met in that program were certainly conversant in English. We would caution, however, that this will need to be enhanced in subsequent years especially since courses are offered in Arabic with little opportunity to practise English. **We suggest that the college needs to find ways to ensure that students attain and maintain a high level of English competency so necessary in the modern world.** It would be desirable to offer some senior courses in English. Students should be permitted (perhaps even encouraged) to submit reports in English.

Students are provided with ample opportunity to work in teams in order to address and solve problems and also to give various types of oral presentations and written exercises. The site review team felt that additional focus on teamwork should be given so that such activities are truly judged on a team basis rather than individual assessment of members who were given a common assignment. This might include some introductory basic information to the students on teams and how they work.

Students are also exposed to good levels of experimental learning in class laboratories, field trips to farms, government ministries, and private institutions and organizations. Moreover, an internship program is required and in the opinion of the site review team is well managed ~~and~~ as a positive educational experience. Given the urban origin of many students, this aspect of the program is particularly important. It does, however, involve a considerable investment of time on the part of faculty, which is effort well rewarded. **It is important that the faculty involved in this activity be recognized for the intensive work involved to ensure its success.**

Part 4

Individual Programs

4.1 Plant Production

The plant production program is offered by the Plant Production Department of the College of Food and Agriculture Sciences. The philosophy of the program is to provide fundamental education in plant production sciences meeting international standards. The objectives based on this philosophy are to graduate students who are self-reliant, effective communicators, computer literate, skillful and knowledgeable in the theory and the application of plant production sciences. This is a large department with 23 professors, 17 lecturers and 25 researchers. The expertise of the faculty represents a broad range of plant sciences. Most of the faculty members have postgraduate training from North American or European universities. They are active publishers and have a good knowledge of their discipline areas.

The department has access to a number of well-equipped teaching laboratories supplemented by an even larger number of research laboratories. Greenhouse facilities exist, adjacent to the building on the main campus and also at off campus farms. Field research facilities exist in a minor way on campus and more extensively on the off-campus research farms. Access to commercial farms for student teaching purposes appears to be good.

4.1.1 Current Program

The current program builds logically on basic sciences offered in the first year and a half program. Students are also exposed early in the program to introductory agriculture related courses, including agricultural economics. The upper years are used to provide specialization in the plant sciences. Students are exposed to applied aspects of their area by visitations to field facilities and commercial farms and enterprises and also in the cooperative training course. They are given many opportunities to work in teams and also to communicate orally and in writing. The students do not have many electives but cover a wide range of plant related subjects. Students graduating from this program are well accepted by employers who feel that they are well grounded in the field of plant science. Strengths of the program include a very broad exposure to plant sciences. Areas which could be improved include greater exposure to economics and agribusiness, plant protection and a larger number of elective courses. **This program provides an education opportunity which is comparable to Canadian universities and thus the site review team recommends that it be given full equivalency status.**

4.1.2 New Program

The new program has students enrolling in a common preparatory year. Given the minimal exposure to economics, the college should require that students take the Islamic Economics class during this year. The students in this program are not exposed to

agriculture or food courses until the second year and thus the selection of a major is delayed until the latter part of the second year. Specialization takes place in years three and four. The new program consists of fewer required courses and more electives. The site review team views this as a positive change. **The department may wish to consider streaming in this option probably along the lines of the M.Sc. offerings; e.g., horticulture, agronomy, range and forestry.** This could be easily done by packaging the required specialization courses slightly different and then suggesting to students a menu of electives to give depth in one of these areas. The changes made to the program are positive in the opinion of the site review team. The low student numbers in this important area are a serious concern and the department will have to engage in an active recruitment program to attain viable numbers of students. **Since the new program offers much the same program packaged in a manner which is only slightly different to the current program, the site review recommends full equivalency status for this program.**

4.2 Plant Protection

The Plant Protection program is offered by the Plant Protection Department, College of Food and Agriculture Sciences. This is a large well established department which came into existence at the outset of the college in 1965. The mission of the department is to prepare highly qualified students, scientifically and practically via conducting experiments and encouraging public awareness. The objective of the program is to produce qualified graduates in the fields of plant protection. This philosophy is reflected in the program offerings of the department. The department has 44 regular faculty and 14 others for a total of 58, 17 in plant pathology, 31 in entomology, and 10 in pesticides. The department has three chairs. The majority of the faculty members have PhD training at North American or European universities. They are knowledgeable in their fields and well published. Many are involved in outreach activities. The department is aggressive and image conscious which is reflected in the growth it has undergone in recent years and good student numbers in its program. The department has access to three teaching laboratories, one in each of their primary areas: entomology, plant pathology, and pesticides. These are well equipped and suited to the designed tasks. In addition, the department has modern well equipped research labs which also support the undergraduate function. As well as these laboratories, the department has a number of facilities which contribute to the teaching experience. These include: two apiaries one at the experiment station at Dierab and another at Al-Dieraiaayah; an insect museum with a large collection of indigenous and alien species which is an excellent tool for teaching especially insect systematics and it has links with a number of foreign museums; controlled environment growth chambers; five greenhouses two on the main campus, two at Al-Dirieah Al-Daraieya and a fifth at Dierab; a scientific drawing unit and; an information tool unit.

4.2.1 Current Program

As in the other college programs, the early semesters are devoted to basic sciences, introductory agrifood sciences and communication skills. Specialization occurs in upper years. The program is structured so that students are exposed to production courses

The Agricultural Institute of Canada

is pleased to certify that AIC Accreditation has been granted to the

*College of Food and Agriculture Sciences
King Saud University
for the following programs*

Full AIC Accreditation

Agricultural Economics (2009, 2010 -) Agricultural Engineering (2009, 2010 -)
Animal Production (2009, 2010 -) Plant Production (2009, 2010 -)
Soil Science (2009) Plant Protection (2009, 2010 -)
Food Science and Human Nutrition (2009, 2010 -)

Provisional AIC Accreditation

Agricultural Extension and Rural Society (2010)
Soil Science (2010)