

**ANNUAL REPORT**  
**FACULTY OF AGRICULTURAL AND FOOD SCIENCES**  
**2002-2003**

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**ANNUAL REPORT  
FACULTY OF AGRICULTURAL AND FOOD SCIENCES**

**2002-2003**

**INTRODUCTION**

The academic year 2002/2003 was a busy year for the Faculty starting in October with celebrations for the 50<sup>th</sup> Anniversary which were attended by over 450 alumni and former faculty. The celebrations consisted of the President's reception in Marquand House, the opening ceremony at Issam Fares Hall, two symposia in the FAFS lecture Hall, a Gala Dinner and a day at AREC.

Student enrollment figures for 2002/2003 were as follows: 489 students during the first semester of which 73 were graduate students and 494 students during the second semester of which 84 were graduate students; 184 students during summer 2003 of which were 45 graduate students. During 2002/2003, 86 students graduated: 17 with a B.Sc. in Agriculture; 42 with a B.Sc. in Nutrition and Dietetics and 27 received their M.Sc. degrees.

The undergraduate program in Food Science and Management was introduced in October 2002 with 22 students enrolled in the first year. The Landscape Design and Eco-Management program, in its third year, proved to be a successful program attracting many students and fulfilling a needed area of study for Lebanon and the region that AUB serves. The registration of the new BS in Landscape Design and Eco-Management with the New York State Board of Education was approved.

Effective October 1, 2002, Drs. Imad Toufeili and Ramy Zurayk were promoted from Associate Professor to Full Professor in the Nutrition and Food Science Dept and the Land and Water Resources Dept., respectively. Ms. Julie Weltzien, new visiting Assistant Professor, joined FAFS effective October 1, 2002. Dr. Mustafa Haidar completed his one year sabbatical leave at North Carolina State University. Dr. Shady Hamadeh returned on September 1, 2003, after completing six months sabbatical leave at the Headquarters of the International Development Research Center (IDRC) in Ottawa, Canada.

Research and service activities continued to increase. A total of 16 projects were funded by URB, 11 projects were funded by LNCSR and 12 projects were funded by international agencies and private companies. The faculty continued to be involved in 4 service contracts funded by USAID, Council for Development and Reconstruction (CDR), IFAD, and UNDP.

Although attempts are being made to increase efficiency of space utilization, space continues to be our most serious constraint. We are reluctant to start any new research and service contracts because we do not have any office space to accommodate the required personnel for even existing contracts.

**SECTION A**  
**SUMMARY REPORT OF THE DEAN**



research assistants are on grant money reflecting the increased research activities of the faculty and the increased funding for research from outside AUB.

During this academic year, ten faculty members were granted Short Term Faculty Development leaves where they presented papers at Regional and/or International conferences. One faculty member was granted Long Term Faculty Development leave.

**Table 1: NUMBER OF FACULTY BY RANK**

Professor Emeritus	3
Professors	13
Associate Professors	8
Assistant Professors	4
Visiting Assistant Professor	1
Senior Lecturer	1 (Part time)
Lecturers	4 (Part time)
Instructors	5 (2 Full time) (3 Part time)
Assistant Instructors	2 (Part time)

**Table 2: OTHER ACADEMIC PERSONNEL**

<u>Category</u>	<u>Funds</u>	<u>Number</u>
Research Associates	University	1
	Grant	4
Senior Research Assistant	University	3
Research Assistants	University	7
Research Assistants	Grant	21 (11 Full time) (10 Part time)
Graduate Assistants	University	21

**Non-Academic Personnel**

There are 12 non academic employees in Beirut (Table 3) and 42 at the AREC. Two of these stationed at AREC are budgeted under Animal Science Department, 3 are budgeted under Plant Sciences Department and 4 are budgeted under Land & Water Resources Department. This is because the majority of their work is for assisting in teaching and research in those three Departments.

**Table 3: LIST OF NON-ACADEMIC STAFF**

<u>NAME</u>	<u>TITLE</u>	<u>GRADE</u>
<b>I. <u>Dean's Office</u></b>		
Hamzeh, Haifa	Clerk Stenographer	7
Haydar, Imad	Messenger	1
Khoury, Wafa	Executive Officer	Above grade 12
Koubayssi, Rabia	Schedule & Examination Clerk	8
Sarini, Pauline	Secretary	9

**Table 3: (Cont'd)**

	<u>NAME</u>	<u>TITLE</u>	<u>GRADE</u>
<b>II.</b>	<b><u>Animal Science</u></b>		
	Atikian, Nesta	Senior Technician	9
	Ashkarian, Vahé	Senior Technician	9
	Shukr, Talib Ali	Senior Poultry Attendant	4
	Sabra, Hussein	Livestock & Poultry Production Supervisor	11
	Harb, Mohammad	Animal Attendant	3
	Zureik, Mohammad	Poultry Attendant	2
<b>III.</b>	<b><u>Plant Sciences</u></b>		
	Abu Samra, Elias	Greenhouse Custodian	3
	El-Haddad, Nioloas	Farm Crop Production and Protection Supervisor	11
	Kayyal, Hatem	Agronomy Foreman	6
	Yazbek, Ali	Assistant Agronomy Foreman	3
<b>IV.</b>	<b><u>Nutrition and Food Sciences</u></b>		
	Derboghossian, Arsine	Associate Technician	6
	Ghannam, Tania	Clerk Typist	6
	Kadi, Ghassan	Associate Technician	6
	Rawdah, Mustapha	Laboratory Aide	1
	Tuma, Samir	Associate Technician	6
	<b><u>Land &amp; Water Resources</u></b>		
	Hajj-Hasan, Ahmad	Electrician	6
	Kak, Abbas	Assistant Mechanic	4
	Mouna, Hassan	Day &/or Night Attendant (Elect.& Boiler)	5
	Sindian, Ali	Head Mechanic	9
<b>V.</b>	<b><u>AREC Administration</u></b>		
	Hajj-Hassan, Hussein K.	Sales Attendant/Store Keeper	7
	Maluf, Fuad	Farm Manager	12
	Yazbeck, Bilal	Driver, Purchaser	5
	Yazbeck, Mirna	Clerk Typist	6
<b>VI.</b>	<b><u>AREC Physical Plant</u></b>		
	Hajj-Hasan, Fuad	Boiler Operator/Pipe Fitter	6
	Hajj-Hasan, Husain Ali	Gateman/Watchman	3
	Hajj-Hasan, Khayrieh	Maid	1
	Hajj-Hasan, Mohammad	Gateman/Watchman	3
	Hajj-Hasan, Shehadeh	Janitor	1

**Table 3: (Cont'd)**

<b><u>NAME</u></b>	<b><u>TITLE</u></b>	<b><u>GRADE</u></b>
Hasan-Kassem, Ibrahim	Gateman/Watchman	3
Kak, Mohamad	Gateman/Watchman	3
Masri, Ali	Gateman/Watchman	3
Mussawi, Kuzhayyah	Gateman/Watchman	3
Rumeh, Ali	Janitor	1
Sayyed-Ahmad, Abdullah	Gateman/Watchman	3
Yaghi, Hazim	Physical Plant supervisor	11
Zein, Bassam	Mason	5
<b>VII. <u>AREC Production</u></b>		
Abu-Eid, Abdullah	Field Worker	1
Barru, Abdul Rahman	Laborer	1
Hajj-Hasan, Ahmad K.	Animal Attendant	3
Hajj-Hasan, Ali	Field Worker	1
Moussawi, Abbas	Machine Operator	3
Taksh, Nayef	Machine Operator	2
<b>VIII. <u>AREC Cafeteria</u></b>		
Hamiyeh, Walid	Assistant Cook	5
Kayyal, Ali	Food Service Worker	1
Shamun, Hanna	Cook	7
Shukr, Khalil	Food Service worker	1
<b>IX. <u>AREC Library</u></b>		
Sleiman, Samar	Librarian	5
<b>X. <u>AREC AUH</u></b>		
Sayyed-Ahmad, Mariam	Staff Nurse	9

### **ACADEMIC AND STUDENT AFFAIRS**

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During 2002/2003, 86 students graduated: 17 with a B.S. in Agriculture; 42 with a B.S. in Nutrition and Dietetics and 27 received their M.S. degree.

The undergraduate program in Food Science and Management was introduced in October 2002 with 22 students enrolled in the first year. The Landscape Design and Management program, in its third year, proved to be a successful program attracting many students and fulfilling a needed area of study for Lebanon and the region that AUB serves. The registration of the new BS in Landscape Design and Eco-Management Program with the New York State Board of Education was approved.

**Table 4: STUDENT ENROLLMENT BY CLASS 2002-2003****UNDERGRADUATE ENROLLMENT****1. Agriculture, Ingenieur Agricole**

	Fall	Spring	Summer
Agri. I	160	134	37
Agri. II	23	29	17
Agri III	14	16	19
Agri IV	6	16	2
AGR Special	9	13	2
<b>Total</b>	<b>212</b>	<b>208</b>	<b>77</b>

**2. Landscape Design and Eco-Management**

LDEM I	25	19	7
LDEM II	15	19	19
LDEM III	8	10	2
LDEM IV	0	2	1
<b>Total</b>	<b>48</b>	<b>50</b>	<b>29</b>

**3. Nutrition and Dietetics**

N/D I	38	26	2
N/D II	52	53	10
N/D III	38	45	9
N/D Special	6	7	5
<b>Total</b>	<b>134</b>	<b>131</b>	<b>26</b>

**4. Food Science and Management**

FSMTI	21	<b>20</b>	5
FSMTII	0	<b>0</b>	1
FSMTIII	1	<b>1</b>	1
<b>Total</b>	<b>22</b>	<b>21</b>	<b>7</b>

<b>Total Undergraduate</b>	<b>416</b>	<b>410</b>	<b>139</b>
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**GRADUATE ENROLLMENT BY MAJOR**

	Fall	Spring	Summer
Agricultural Economics	6	6	2
Animal Science	6	7	5
Plant Science	1	1	2
Ecosystem Management	13	15	5
Food Technology	6	8	4
Irrigation	3	2	3
Nutrition	23	30	17
Plant Protection	9	10	5
Poultry Science	3	1	2
Soil and Mechanization	3	2	0
<b>Total Graduate</b>	<b>73</b>	<b>84</b>	<b>45</b>
<b>Total Enrollment</b>	<b>489</b>	<b>494</b>	<b>184</b>



## **RESEARCH GRANTS AND SERVICE CONTRACTS AND PUBLICATIONS**

During the 2002/2003 research at FAFS was funded by several agencies. The University Research Board (URB) provided funds for 16 faculty members with a total budget of \$90,500. The Lebanese National Council for Scientific Research (LNCSR) supported projects for 11 faculty members with a total budget of LL 94,900,000. New funds were also received from the following international and regional agencies, as well as from private Lebanese Companies:

A new research project on “Selection of Cucumber for Resistance to Cucurbit Yellow Stunting Disorder Virus” was approved by USDA for the period June 1, 2003 to May 31, 2005 with a total budget of \$25,000.

The Biotechnology project funded by Mercy Corps was extended for an additional year until July 2004 with a total budget of \$200,000.

The Enhancement for Sustainable Development of Forage Production Project, funded by Mercy Corps, was extended for an additional three years until November 2005 with a total budget of \$1,300,000.

A new service contract was signed with IFAD for the establishment of a National Training Unit for Lebanon in Agriculture Project Management effective June 1, 2003 for an initial period of one year with a total budget of \$100,000.

A service contract on “Provision of Technology transfer and extension for major irrigation schemes (Akkar El Bared, Dannyieh, Qasmieh, South Bekaa) was signed with a total budget of \$773,584. This project is funded by the Lebanese Council for Development and Reconstruction. The period of the contract is from December 17, 2002 up till June 2004.

A new agreement with the American Soybean Association to conduct feed trials on broilers at AREC was signed with FAFS effective May 1, 2003 and until September 30, 2003, with a budget of \$10,000.

The Report Commodities for USAID/ASHA Grant #1336-835 has been approved by ASHA. Total approved budget for FAFS is \$264,500.

### **Visiting URB Scholar**

Dr. Almo Farina, Associate Professor of Ecology at the University of Urbino, Italy, was invited by the Plant Sciences Dept, to present two lectures on May 8 and 9, 2003.

His two lectures are on “An Ecosystem Approach to Biodiversity” and “From Ecosystem to Landscape: A Holistic Approach to Nature Conservation and Environmental Sustainability”.

### **Vistors from Mu'tah University**

The Vice President of Academic Affairs, the Dean of the College of Agriculture and a Professor of Horticulture from Mu'tah University in Jordan visited FAFS on May 9 and 10, 2003, to study the possibilities of cooperation with AUB. The USAID mission in Jordan is interested to promote this activity and are prepared to finance joint programs.

## **CONFERENCES AND SEMINARS**

The Plant Sciences Department sponsored a seminar on “Improving Plant Productivity by Bioengineering Higher Efficiency Chloroplasts” by Senior Professor Constantin Rebiez from

the University of Illinois, held on January 20, 2003.

### **FAFS 50<sup>th</sup> Anniversary**

FAFS celebrated its 50th Anniversary in October 2002. October 24, 2002, marked the opening of the celebrations with the President's reception held at Marquand House. On October 25, 2002, the opening ceremony was held at Isam Fares Hall, in the presence of representatives of President Lahoud, speaker Birri and Prime Minister Hariri. Present also were AUB Administration, a distinguished list of visiting scholars, faculty, staff and students. Dean Dagher gave the opening address followed by President Waterbury and the Minister of Culture, representing the President of the Republic. The first class of 1956 were honored and those present were given special plaques honoring the occasion. After the opening ceremony, the rest of the day was dedicated to two symposia held at the FAFS Lecture Hall. The morning session was on "Contributions of the FAFS and its Alumni to the Development of Agricultural and Food Systems in the Middle East", while the afternoon session was on "Agricultural and Food Systems in the 21<sup>st</sup> century". The lectures were presented by 13 local and visiting scholars, many of them former FAFS faculty or FAFS graduates.

A gala dinner was held on October 25, during which awards were given to eight graduates who distinguished themselves in academia, in business, and in international work. These were: H.E. Mahmoud Duwayri, Mr. Musa Freiji, Ms. Fatimah Hayat, Mrs. Sawsan Wazzan Jabri, Dr. Fayez Khasawenah, Mr. Jack Khayyat, Dr. Constantin Rubeiz, and Dr. Jose Zaglul. On October 26, the participants spent the day at AREC where they enjoyed a barbecue and toured the facilities.

A new endowment fund "the FAFS 50<sup>th</sup> Anniversary graduate student Fund" was established on the occasion of the Anniversary and proceeds from the Gala Dinner were used to start this fund.

### **ALUMNI**

Table 5 shows the number of graduates from FAFS since 1956 which includes the T.V.T program that was started in 1954 funded by USAID and discontinued in 1971. FAFS has graduated a total of 3690 students from its regular instructional programs: 2213 with the B.S. degree in Agri. & the Ingenieur Agricole Diploma, and the B.S. degree in Nutrition and Dietetics and 1477 students with the M.S. degree. The table also shows that our graduates came from 56 countries and that most of these are from the Middle East, South Asia and North Africa.

**Table 5: AGRICULTURAL GRADUATES BY COUNTRIES  
1956-2003\***

Country	B.S.	M.S.	T.V.T.**	Total
Aden	5	1	0	6
Afghanistan	16	38	60	114
American	16	5	0	21
Argentina	0	1	0	1
Australian	4	2	0	6
Bahrain	5	0	0	5
Bangladesh	1	64	0	65
Bolivian	3	3	0	6
Brazilian	4	2	0	6
British	8	3	0	11
Canadian	3	0	0	3
Chinese	0	1	0	1
		9		

<b>Country</b>	<b>B.S.</b>	<b>M.S.</b>	<b>T.V.T.**</b>	<b>Total</b>
Costa Rica	1	1	0	2
Cypriot	12	17	22	51
Danish	1	0	0	1
Egyptian	4	3	0	7
Ethiopian	1	1	92	94
French	4	2	0	6
German	1	0	0	1
Ghana	1	0	0	1
Greek	6	5	0	11
Indian	1	3	2	6
Indonesian	1	0	0	1
Iranian	60	47	19	126
Iraqi	12	12	0	24
Jordanian	103	112	20	235
Kenyan	1	0	0	1
Kuwaiti	5	1	0	6
Lebanese	1717	751	4	2472
Lesotho	1	0	0	1
Libyan	2	0	17	19
Maldives	2	0	0	2
Mexican	1	0	0	1
Moroccan	12	4	0	16
Nepalese	6	9	46	61
Nigerian	3	0	0	3
Omani	1	0	0	1
Pakistani***	15	274	90	379
Palestinian	45	26	0	71
Qatari	1	0	0	1
Romanian	1	0	0	1
Saudi Arabia	7	0	4	11
Sierra Leone	2	0	0	2
Somalia	0	2	24	26
Sirilankan	0	1	0	1
Sudanese	18	25	23	66
Sweden	0	1	0	1
Syrian	57	35	0	92
Tanzanian	0	1	0	1
Togo	0	1	0	1
Tunisian	2	0	1	3
Turkish	8	10	0	18
Venezuelan	5	3	0	8
Yemen	7	2	4	13
Yugoslavian	0	1	0	1
Unknown	21	7	0	28
<b>Total</b>	<b>2213</b>	<b>1477</b>	<b>428</b>	<b>4118</b>

\* As of June 2003.

\*\* The Technical Vocational Training (TVT) Program was terminated in August, 1971.

\*\*\* Includes Bangladesh up to 1973.

**SECTION B**  
**REPORTS BY DEPARTMENTS AND PROGRAMS**

## DEPARTMENT OF ANIMAL SCIENCES

2002-2003

**Shady K. Hamadeh, Chairperson**

### **SUMMARY OF THE PROGRAM**

The Department members managed to offer 11 undergraduate and 8 graduate courses with seminars and tutorials in spite of the involvement of two members in administrative activities (Dean and Director of AREC) and the sabbatical leave of a third member during the Spring and Summer semester.

The service course (ANSC 279) attracted a record number of around 500 students mostly from other faculties. In addition, Animal Science Faculty members were actively involved in research and services. Ten research projects funded by university, national and international sources were carried out with an output of 10 research papers either published or accepted . Furthermore, Department members participated in various workshops and conferences in Lebanon and abroad.

### **PERSONNEL**

#### Faculty and Staff

##### *Academic*

Elie Barbour, Ph.D.; Professor of Veterinary Microbiology.

Nuhad Dagher, Ph.D.; Professor of Poultry Science; Dean of FAFS.

Mouhamad Faraan, Ph.D.; Professor of Poultry Science; Director of AREC.

Shadi Hamadeh, Ph.D.; Professor of Animal Physiology. Chairman

Fawak Sleiman, Ph.D.; Professor of Dairy Science.

Michel Uwayjan; Research Associate.

Lina Jaber: Research Assistant.

Corinne Dick, Mounir Abi Said, Nagi Rubeiz, Adele Habr, Vatche Sagharian: Research Assistants on Grants.

Maroun Fram, Adele Habr, Nadim Raouda, Lina Zgheib, Nagi Abu Chacra, Amin Ghanem, Hussam Chehab: Graduate Assistants.

##### *Non-Academic*

Vahe Ashkarian; Senior Technician.

Nesta Sagharian; Senior Technician.

Hussein Sabra, Livestock Supervisor.

Taleb Shukr; Senior Poultry Attendant.

## Teaching Activities

	<u>No. of students</u>	<u>Core courses</u>	<u>Electives</u>	<u>Others</u>
<b><u>Fall 02-03</u></b>				
Undergraduate	48	3 (including seminar)	2	0 tutorial
Graduate	20	4 (including seminar)	-	3 tutorials
<b><u>Spring 03</u></b>				
Undergraduate	523	3 (including seminar)	1	1 tutorials
Graduate	11	3 (including seminar)	-	1 tutorials
<b><u>Summer 02</u></b>				
Undergraduate	32	1	1	
Graduate	1	1(including seminar)	-	3 tutorial

### *No. of Graduate students enrolled and graduated*

	<u>No. of students</u>
<b><u>Fall</u></b>	
Enrolled	6 ANSC, 2 poultry
Graduated	1 poultry
<b><u>Spring</u></b>	
Enrolled	7 ANSC; 3 Poultry
Graduated	2 ANSC; 1 Poultry
<b><u>Summer 02</u></b>	
Enrolled	5 ANSC; 2 Poultry
Graduated	3 ANSC (expected)

## SERVICES

### *Elie Barbour*

- FAFS admission committee (secretary)
- University admission committee
- Serving farmers in the private sector
- Member of the Scientific Advisory Board of the Office International Des Epizooties (Scientific and Technical Review Journal of the World Organization For Animal Health).
- Monitoring and prevention of breeders diseases in Lebanon and Syria
  
- Actively involved in the Organic chicken layer farms in Jezzine area, which is supported by World Rehabilitation Fund. Alternative Holistic approaches for control of diseases on 35 farms in the region is in progress.

### *Mohamed Farran*

- AREC Director
- AUB Accreditation Committee, task force # 13
- Task force on Agriculture and Environment (LNCSR)
- Advisor (non-remunerated) to the Lebanese Minister of Agriculture.

### ***Shadi Hamadeh***

- Administrative Committee
- Graduate Studies Committee
- Academic and Curriculum Committee
- Extension work and training farmers on small ruminant production in Northern Bekaa
- Coordinator of the Environment and Sustainable Development Unit (ESDU)
- Coordinator of the National training Unit under the NEMTA project supported by IFAD

### ***Fawwak Sleiman***

- Member of the Advisory Committee.
- Member of University Senate
- Member of the University Council
- Conducted a training workshop for farmers on “Dairy Stock Management” and on “Producing, harvesting, preserving and feeding forages” funded by US-AID.

## **RESEARCH**

### ***Elie Barbour***

#### *Projects:*

- URB: Evaluation of an emulsion delivering herbal extracts with immunomodulation and antimicrobial activities.
- LNCSR: Relationship of water deprivation stress to immunity in Awassi ewes of Lebanon.
- Mercy Corps – Lebanon Program and Ohio-Toledo - AUB program: Generation of new plant-derived commercial products from indigenous Lebanese plants or other ecologically appropriate ones: an alternative for sustainable agricultural development in Lebanon.

### ***Mohamed Farran***

#### *Projects:*

- Canavanine in ervil seeds may induce molting in laying hens by reducing feed intake. Funded by URB.
- Argentinean Lo and Hi Pro vs. US HI Pro soybean meals in broiler diets. Funded by the American Soybean Association.
- A research proposal to LNCSR that includes LARI and the Lebanese University according to the new guidelines.

### ***Shadi Hamadeh***

#### *Projects:*

- Sustainable improvement of marginal lands in Lebanon.
- Economic sustainability of small ruminant production in semi-arid areas.
- Environmental indicators of adaptation in livestock.

## ***Fawak Sleiman***

### ***Projects:***

- URB: The potential use of food by-products as feed for ruminants

## **PUBLICATIONS**

### ***Journals:***

Barbour, E. K., M. T. Farran, S. K. Hamadeh, M. Bouljihad, O. Faroon, and S. Kreydiyyeh, 2002. Comparative impact of live chicken infectious anemia virus vaccine versus natural exposure in meat chicken breeders on immunity to infectivity by CIA and inclusion body hepatitis viruses in their offspring. *Veterinary Research Communication* (26:397-405).

Barbour, E.K., Sagherian, V., Talhouk, S., Talhouk, R., Farran, M.T., Sleiman, F.T., and Sabra, R. Impact of *Melissa officinalis* extract administration in broilers on immune responses to viruses and performance. *American Holistic Veterinary Medical Association Journal*, In Press of the January-March, 2003 issue.

Daghir, N. J., M. T. Farran, G. W. Barbour, and M. M. Beck, 2003. Nutritive value of high oil corn grown under semiarid conditions and its impact on broiler performance and carcass composition *Poultry Science*. 82:267-271

Darwish, A.H., M.T. Farran, G.W. Barbour, N. Usayran, and V.M. Ashkarian. Effect of feeding graded levels of three barley varieties on performance and carcass yield of broilers. *WPSA*, 2004 (in review)

Farran, M. T., E. K. Barbour, and V.M. Ashkarian, 2003. Excess leucine in low protein diet fails to induce ketosis in 3-week-old male broiler chicks fed different levels of isoleucine and valine. *Journal of Animal Feed Science and Technology* 103:171-176

Farran M.T., D.E. Haddad, E.K. Barbour, and V.M. Ashkarian. Ad libitum feeding of ervil (*Vicia ervilia*) diet as an alternative to fasting method for incubation of molt in Laying hens. *WPSA*, 2004 (in review)

*Hamadeh. S.K., L. S. Jaber, M. Abi said, K. Daadaa and G. Zoubiane, 2003. Reproductive Performance Of Spring And Fall Post-Partum Awassi And Finn X Texel X Awassi Ewes Under Different Weaning Regimes (submitted)*

Jaber, L.S., A. Habre, N. Rawda, M. Abi Said, E.K. Barbour and S. Hamadeh.2003. The Effect of Water Restriction on some Physiological Indicators in Awassi Sheep. (accepted with revision)

Tami, F., S. Hamadeh, and M. Abi Said. 2003. Sustainable Improvement of Small Ruminant Production in the Semi-Arid Areas of Lebanon (accepted with revision)

### ***Books:***

Barbour, E.K.; Mathew, T. 2003. Contribution of Disease Free Pets to Human Health. New Jersey Press. USA.



Hamadeh, S.K.; Haidar, M., Zurayk, R. The Cactus Flower: Research for Development in the Dry Arab World. 2003. IDRC publication. (Manuscript)

***Abstracts:***

Silage characteristics, apparent digestibility, and performance of lambs fed apple pomace ensiled with different levels of wheat straw.

***Masters' Theses:***

- El Haddad Daoud, Ervil feeding as an alternative to fasting in molting programs for layers
- El Sharif Mohammed, In vitro and in vivo antimicrobial activities of selected indigenous medicinal plants of Lebanon
- Sagherian Vatche, Immunopotiation and antimicrobial activities of indigenous medicinal plants of Lebanon
- Abou Chacra Naji, Comparison of performance, hematological and anti-cancer factors in two Tortoise breeds.
- Rebeiz Naji, Effect of liquid whey and molasses supplementation on fermentation characteristics and apparent digestibility of urea treated straw silage

**Meetings, conferences and workshops attended**

***Barbour Elie***

- American Veterinary Medical Association congress in Denver, July 2003.
- Poultry Production in Warm climates, workshop offered by CIHEAM, Zaragoza, Spain, in May, 2003.

***Farran Mohamed***

- Workshops and seminars organized by national and international companies.

***Hamadeh Shadi***

- Regional workshop organized by IFAD in AMMAN Jordan, January 2003
- Sabatical award at the IDRC headquarters, Ottawa, Canada, Spring and Summer 2003.
- Conference on ecosystem approach to health, IDRC, Montreal, Canada, 17-23 May 2003

***Sleiman Fawak***

- Joint annual meeting of the American Dairy Science association (ADSA), the American Society of Animal Science (ASAS) and the Mexican Association of Animal Production (MAP), Phoenix, Arizona, June 22-26, 2003.

## **FUTURE DEVELOPMENT**

In case the new program leading to a B.S. in veterinary sciences is approved by the university in 2004, the department will need to recruit an additional faculty member by the year 2006-2007. The large enrollment in the service course ANSC 279 may necessitate the recruitment of a part-time instructor starting the academic year 2004-2005 to insure a good teaching quality.

Furthermore, the department has plans to boost the animal research facilities at AREC in the domain of animal pathology and zoonosis research.

Finally, the rehabilitation of the main laboratory is expected to be completed during 2003-2004.

## **DEPARTMENT OF LAND AND WATER RESOURCES**

**2002-2003**

**Isam I. Bashour, Chairperson**

### **SUMMARY OF PROGRAM**

The members of the faculty at the LWRS belong to different academic backgrounds ranging from agricultural economics, water science, hydrology, soil science to farm mechanization. They pursue a variety of research activities that cover the wide range of their academic backgrounds and interests. The LWRS Department performed well during last year in all aspects of teaching research and community service.

The variation in the scientific fields and the applied research activities strengthens the department as a support unit to other departments at FAFS, university extension & development programs and to the farming community in Lebanon at large.

Student enrollment in the undergraduate and graduate courses was close to last year's number.

Twenty-one courses were offered, eleven undergraduate and ten graduate. A total of seven students earned a Master of Science degree, two in Irrigation, two in Soil Science, two in Mechanization, and one in Agricultural Economics. Published research included twelve refereed articles, two conference papers, a book and seven chapters in books. Also many technical reports were written by the LWRS faculty members and several seminars to farmers were offered at AREC/Bekaa, South, Akkar, North and other regions of Lebanon.

### **PERSONNEL**

#### **Full time Faculty**

Bashour, Isam, Ph.D., Associate Professor of Soil Science

Darwish, Ragy, Ph.D., Associate Professor of Agriculture Economics

Farajalla, Nadim, Ph.D., Assistant Professor of Environmental Hydrology & Water Resources

Nimah, Musa, Ph.D., Professor of Irrigation

Sidahmed, Moatasim, Ph.D., Associate Professor of Mechanization

Zurayk, Rami, Ph.D., Professor of Soil Science

#### **Part time Lecturer**

Kharrat, Antoine, Ph.D.

Moukarzel, Carla, M.Sc.

#### **Departmental Research Assistant**

Lteif, Arlette, M.Sc.

## Research Assistants

Fall Semester, Oct 1, 2002- Jan. 31, 2003

### Part time (Grant)

Bsaibes, Aline M.Sc.

### Full time (Grant)

Mohamad Jamil  
Mahmoud Dally  
Afif El-Khoury  
Rania Touma  
Elsa Babik  
Dany Lichaa El-Khoury  
Maya Adra  
Riwa El Derbas  
Hiba Youness  
Roula Faress  
Hind Farah  
Samer Fatfat  
Ali Houjeri  
Antoine Serhale  
Thana Abou Ghyda  
Marie Sahyoun  
Mona Haidar

Youssef El-Masri  
Nivine Hajj Hassan  
Hussein Darwish  
Maria El Kotob  
Rami Bsot  
Roula Sammoura  
Renee Codsí  
Rana Kobrossi  
Rania Maroun  
Marianne Kazapoulo  
Ibrahim Alameldeen  
Raja Boufakheladeen  
Wissam Fayyad  
Karma El Fadl  
Haytham Hartajli  
Zeina Abou Najm

Spring Semester, Feb. 13 -June 14, 2003

### Part time (Grant)

Bsaibes, Aline M.Sc.

### Full time (Grant)

Yanni, Sandra M.Sc.  
Mohamad Jamil  
Afif El-Khoury  
Rania Touma  
Elsa Babik  
Dany Lichaa El-Khoury  
Roula Faress  
Hind Farah  
Samer Fatfat  
Ali Houjeri  
Antoine Serhale  
Thana Abou Ghyda  
Marie Sahyoun  
Mona Haidar  
Youssef El-Masri  
Nivine Hajj Hassan

Hussein Darwish  
Maria El Kotob  
Rami Bsot  
Roula Sammoura  
Renee Codsí  
Rania Maroun  
Marianne Kazapoulo  
Ibrahim Alameldeen  
Raja Boufakheladeen  
Wissam Fayyad  
Karma El Fadl  
Haytham Hartajli  
Zeina Abou Najm  
Dunia El Hassan  
Hadi Yassine  
Youssef Naddaf

Summer Semester, June 2003-Sept. 2003

Part time (Grant)

Joukhadar, Charles M.Sc. (1/2)

Wakim, Rita B.S. (1/2)

Full time (Grant)

Yanni, Sandra M.Sc.

Mohamad Jamil

Afif El-Khoury

Rania Touma

Elsa Babik

Dany Lichaa El-Khoury

Roula Faress

Hind Farah

Samer Fatfat

Ali Houjeri

Antoine Serhale

Thana Abou Ghyda

Marie Sahyoun

Mona Haidar

Youssef El-Masri

Nivine Hajj Hassan

Hussein Darwish

Maria El Kotob

Rami Bsar

Roula Sammoura

Renee Cods

Rania Maroun

Marianne Kazapoulo

Ibrahim Alameldeen

Raja Boufakheladeen

Wissam Fayyad

Karma El Fadl

Haytham Hartajli

Zeina Abou Najm

Dunia El Hassan

Hadi Yassine

Youssef Naddaf

**Graduate Assistants**

<b>Semester</b>	<b>Students</b>
<b>Fall</b> Oct 1, 2002- Jan. 31, 2003	Abou Mosleh Rania B.S. (1/2) Badawi Rana B.S. (Full) Doughan Youssef B.S. (1/2) El-Jadam Joy B.S. (1/2) Haddad Ghassan B.S. (Full) Karamah Joumana B.S. (1/2) Yanni, Sandra B.S. (1/2) Yammout, Lina B.S. (1/2) Nada Omeira Rhea Selwan
<b>Spring</b> Feb. 13, 2003 -June 14, 2003	Abou Mosleh Rania B.S. (1/2) Abou Rached Carole B.S. (1/2) Badawi Rana B.S. (1/2) Doughan Youssef B.S. (1/2) El-Jadam Joy B.S. (1/2) Haddad, Ghassan B.S. (1/2) Karamah Joumana B.S. (1/2) Khalil, Rania B.S. (1/2) Kheir, Vera B.S. (1/2) Wakim Rita B.S. (1/2) Nada Omeira
<b>Summer</b> June 2003 – September 2003	El-Jadam Joy B.S. (1/2) Maria-Pia Nehme

## TEACHING ACTIVITIES

### Undergraduate Students /Courses

	<i>Core Courses</i>	<i>Electives</i>	<i>Others</i>
<b>Fall 02-03</b>	AGRL 201 LWRS 212 LWRS 215 LWRS 227 LWRS 228 LWRS 265 LWRS 290		tutorial
<b>Spring 02-03</b>	AGRL 270 ENSC 202 (shared) LWRS 225 LWRS 228 LWRS 241 LWRS 265	LDMG 229 (shared)	tutorial seminars

### Graduate Students /Courses

	<i>Courses</i>	<i>Others</i>
<b>Fall 02-03</b>	AGRL 301 (shared) LWRS 310 LWRS 324 LWRS 317	1 tutorial
<b>Spring 02-03</b>	AEDV 374 AGRL 301 (shared) ENSC 630 ENSC 631 (shared) ENSC 690 FTNC 371 LWRS 309 (shared)	3 tutorial
<b>Summer 02-03</b>	AGR 229- forage project LWRS 399	1 tutorial

### No of Graduate students enrolled and graduated

	Number of students			
	Agricultural Economics	Irrigation	Soils	Mechanization
<b>Fall 02-03</b>				
Enrolled	5	5	2	2
Graduated	0	2	0	2
<b>Spring 02-03</b>				
Enrolled	5	5	2	0
Graduated	1	0	2	0
<b>Summer 02-03</b>				
Enrolled	4	4	0	0
Graduated	0	0	0	0

## Graduate Thesis

- Al Hassan, Raghed. Effect of several organic sources on crop production and their effect on biodegradation of residual endosulfane. Advisor: Dr. Bashour, Isam.
- El Hindi Rana. Impacts of shifting farming systems on soil degradation in a semi-arid mountain regions of Lebanon. Advisor: Dr. Zurayk, Rami.
- Chamaa, Joumana. An economic approach: towards an integrated urban waste management plan: the case of hotel-dieu de france. Advisor: Dr. Darwish, Mohammad-Ragy.
- Joukhadar, Charles. Comparative study of standard and alternative methods of soil analysis. Advisor: Dr. Bashour, Isam.
- Yanni, Sandra. Gravel Vertical mulches, in drip irrigated orchards as a means of improving water use Productivity. Advisor: Dr. Nimah, Musa.

## PUBLICATIONS

### Publications in Refereed Journals & Proceedings

- 1.1 **Bashour, I.**, S. Dagher, G. Chammas and N. Kawar, (2003). Comparison of Gas Chromatography and Immunoassay Methods for Analysis of Total DDT in Calcareous Soils. *Journal of Environmental Science and Health, Part B – Vol. B38, No. 2*, pp. 111-119.
- 1.2 Lteif, A., **I. Bashour**, N. Nimah and R. Darwish, (2003). Selenium levels in Lebanese Agricultural soils. Submitted for *Soil Science Journal*.
- 1.3 **Bashour, I.**, S. Dagher, G. Chammas, A. Lteif and N. Kawar (2003). Survey of Lebanese Soils for DDT residues. Submitted for publication in *Journal of Environmental Science and Health, Part B*.
- 1.4 **Bashour, I.** (2003). Fertilizer consumption in the Near East: Low potassium rates? Accepted for publication, proceedings of the International Potash Institute meeting in Jordan, Amman.
- 1.5 **Bashour, I.** and Lteif, A. (2002). Selenium levels in Lebanese soils and forages. Presented at the Annual Meeting of American Chemical Society, Boston, Aug. 18-22, 2002.
- 1.6 **M.N.Nimah**, A. Bsaibes, F. Alkal, **M.R. Darwish**, and **I. Bashour**. 2003. Optimizing cropping pattern to maximize water productivity. In *River Basin Management 2003*. Edited by C, A. Brebbia. Published by WESSEX INSTITUTE OF TECHNOLOGY, UK pp, 187-199.
- 1.7 **Darwish M. R.**, R. Rahal and R. Sadek, Economics of Biodiversity Conservation: The Case of Al-Shouf Cedar Reserve of Lebanon, *Journal of Resources, Conservation and Recycling*, Elsevier, The Netherlands 2001 (in revision).
- 1.8 **Nimah, M.N.** (2002). Water resources management in the Near East and North Africa Region. *FAO Current Emerging Issues for Economic Analysis and Policy Research; CUREMIS II NENA*.
- 1.9 **Nimah. M. N.**, Bsaibis, A., and Hamed-Jawahari, M. 2002. Models for Improving Irrigation Scheme Water Productivity. Conference on: Integrated Water Management, Agricultural Research Institute; Nicosia, Cyprus, June 18-22.

- 1.10 **Sidahmed M.M.** and R.B.Brown. 2002. Computer Simulation of factors affecting drift from a forestry airblast sprayer. *Canadian Biosystems Engineering*, 44(2):27-35.
- 1.11 **R. Zurayk**, B. Kanj, S. Talhouk and Riad Baalbaki. Salinity and phosphorus nutrition effects on vegetative growth of differentially drought tolerant wheat. *Crop Science* (Manuscripts in review)
- 1.12 N.J. Kabengi, **R. A. Zurayk** , R. Z. Baalbaki, and J. Ryan. 2003. Phosphorus Dynamics and Characterization Under a Long-term Rotation Trial. **Communications in Soil Science and Plant Analysis**. vol. 34, No.3&4, pp.375-392.
- 1.13 **Zurayk, R.**, B. Sukkariyah, R. Baalbaki and D. Abi Ghanem. 2002. Ni phytoaccumulation in *Mentha aquatica* L. and *Mentha sylvestris* L. **Water, Air and Soil Pollution**. 139, 355-364.
- 1.14 **Zurayk, R.**, and L. Abdel Samad. Environmental Analysis of Urban and Peri-Urban Coastal Agriculture in Lebanon. In Print.

### **Books & Chapters in Books**

- 1.1 **Bashour, I.**, G. Hannoush and N. Kawar (2003). Trace metal content of commercial fertilizers marketed in Lebanon. Accepted for publication, American Chemical Society publication (as chapter in a book).
- 1.2 **Bashour, I.** (2003). Fertilizer types available in the Near East markets and the potential for their use. Accepted for publication by FAO as a chapter in a book.
- 1.3 **Bashour, I.** (2003) Efficient use of fertilizers under sandy desert farming conditions. Accepted for publication by FAO as a chapter in a book.
- 1.4 Sayegh A. and **Bashour I.** (2003) Fertilization of calcareous and gypsiferous soils in the Near East. Accepted for publication by FAO as a chapter in a book. The Fertilizer Manual for the Near East Region.
- 1.5 **Bashour, I.**, and A. Sayegh (2003). Methods of Analysis For Soils in Arid and Semi-Arid Regions. Accepted for publication FAO book (135 pages in English and 123 pages in Arabic language).
- 1.6 Haddad, J. and **Nimah, M. N.** 2002. Water quality Monitoring of a watershed. River Basin Management 2003, Wessex Institute of Technology.
- 1.7 Bsaibis A., **Nimah M. N.** AlKhal, F. Darwish, M.R. and Bashour, I. 2002. Optimizing cropping pattern to maximize water productivity. River Basin Management 2003, Wessex Institute of Technology.
- 1.8 **Zurayk, R.** 2002. Farmers and funders priorities for biodiversity conservation in Lebanon. In: **Promoting Best Practices for Conservation and Sustainable Use of Biodiversity of Global Significance in Arid and Semiarid Zones of the Developing World**. UNEP, GEF, TWNSO. Trieste, Italy.



## **Reports**

**Farajalla N.** 2003. Mitigating the Impact of Agrochemicals on Water Resources in Lebanon-submitted to the Ministry of Environment- Lebanon.

### **Zurayk, R.**

- Yammouneh progress reports
- Qaraaoun Integrated Rural Development progress reports  
Interfaculty Graduate Environmental Sciences Program (IGESP) annual report for the academic year 2002-2003
- Community of Practice on Sustainable Livelihoods in Drylands (COP) annual report

## **RESEARCH PROJECTS**

**Bashour I.** (Main Coordinator), **Toufeili I. and Lteif A.** Status of Selenium in Lebanese soils, grains, vegetables and fruits.2003-2004. URB Grant.

### **Darwish M.R.**

- Coordinator of the Socio-economic unit of Irsal II, FAFS, AUB

### **Farajalla N.**

- Precipitation and Temperature Trends in Beirut and the Central Beqa'a (URB Grant)
- Effects of El Nino on Precipitation Patterns in Lebanon
- Food and Beverage Industry Wastewater Characterization and Management
- Assessment of Surface Water Pollution through Riverbed Sediment Analysis
- Barriers to Implementing Best Management Practices

### **Nimah M.N.**

- Olive Production Under supplemental Irrigation and Split Fertilization. Funded By URB
- Agronomic characteristics of Saffron. Funded by LNCSR
- Vertical Mulching for improving Water Use Productivity. Funded by LWRS Dept
- Effect of Regular water Deficit and Split Fertilization on the production of Agronomic crops

### **Sidahmed M.**

- URB project: The Design of Prototype for lentil harvesting in small farms (continuing)

### **Zurayk R.**

- Provision for Technology Transfer and Extension for Major Irrigation Schemes. Granting agency: CDR. December 17- June 17, 2003. **Status: Project Director.**
- Qaraaoun: An Integrated Rural Development project. Granting agency: USDA. December 2001-November 2003. Total grant value: \$675,000. **Status: Project Director.**
- Yammouneh Extension and Technology Transfer Project. Granting Agency: World Bank. Total grant value: 326,320,094 L.P. Grant duration: April 2002- June 30, 2004. **Status: Project Coordinator**
- Community of Practices: Sustainable Livelihoods in Drylands. Granting Agency: UNDP and World Bank. Grant Duration: September 1, 2002- December 30, 2003. Total grant value: \$20,000. **Status: Project Coordinator.**
- Opportunities for Socio-Economic Growth & Environmental Protection. Granting Agency: *USAID*. Grant Duration: September 22, 2002-December 30, 2003. Total grant value: \$320,922.00. **Status: Project Director.**

## **SERVICES**

**The faculty members of LWRS participated in many AUB committees at the Faculty & University level. They also participated in the following workshops to assist in the development of the Lebanese farming community.**

### **Development of Forage crop in Bekaa**

Drs. Bashour, Darwish, Nimah and Sidahmed. April 2002- Present. Participated in 6 workshops conducted at AREC. One hundred fifty farmers attended these workshops.

### **Dr. I. Bashour**

- Chairperson of LWRS department
- Development of Agriculture in Karak-Jordan
- Participated in several workshops for AUB projects ( Qaraaoun, major irrigation schemes in Lebanon)
- Participated in several workshops for NGO's projects in Lebanon ( YMCA, Creative Associates)

### **Dr. M.N. Nimah**

- Chairman of the Koura Water Authority
- Advisor to the YMCA rural development projects
- Participated in four workshops in the Irrigation Extension Program

**Dr. M.R. Darwish**

- Consultation work to improve Lebanese farmer managerial skills, with the following organizations:
  - UNDP
  - MERCY CORPS
  - CREATIVE ASSOCIATE
- Effects of Trade Liberalization on Agriculture: with Special Focus on Products where Methyl Bromide is Used, A consultant of the economics component of the produced report, A joint venture work between EnviroTech, UNDP and LMOE
- Several workshops conducted by different sponsored agencies to educate the Lebanese farmers in several regions on the following topics:
  - Farm management
  - Project analysis and appraisal
  - Farm records
  - Analysis and estimation of production costs
  - Agricultural coops structures and functions
  - Strategic planning for agricultural coops
- Trainer for Alfalfa workshop at AREC

**Dr. N. Farajalla**

- AUB Web-Oversight
- Task Team 8: Students Admissions Task Team, chair of sub-committee III of the TT8
- Member of the FAFS 50<sup>th</sup> Anniversary Celebrations Organizing Committee and Scientific Committee
- FAFS representative on the Traditional Orientation Program Committee

***Dr. Sidahmed M.***

- Member of University Senate Committee of Student Affairs
- Member of FAFS Research & publications Committee
- Participated in Creative Associate Workshop at AREC
- FAFS representative in Students Affairs Committee
- Member of FAFS URB Committee

***Dr. R. Zurayk***

- Attend the fourth session of the “Sustainability, Education and the Management of Change in the Tropics” series which was held at Maejo University in Chiang Mai, Thailand, from September 29- Oct. 5, 2002 and make a presentation entitled: Preparing a new agricultural curriculum at AUB: the experience, the driving forces,

the pressures and the resulting choices”, which relates the process that has taken place in our self-study since the FAFS retreat.

- Attend the MESA meeting in Washington on November 23, 2002
- Attend the annual meeting of the collaborative project with the Institute National des Recherches Agronomiques, Paris, France (May 14-16, 2003)
- Attend and chair a session at the International Forum on Ecosystem Approaches to Human Health, Montreal, Canada on May 18-22, 2003.

### **ANALYSIS OF SOIL & WATER SAMPLES**

Offering reliable soil, water and plant tissue analysis with correct interpretation of the results and recommendations is very needed in Lebanon. The LWRS Department is offering this service to the Lebanese farmers and the private sector.

The number of soil and water samples which were received from farmers and analyzed at the LWRS laboratories during this year was about 200 samples. These samples were analyzed in details for their chemical & physical characteristics, the obtained results were interpreted and recommendations provided. The revenue obtained from this activity was about 4,000,000 L.L. In addition, many samples were received from AREC and other departments at FAFS and were analyzed for free.

### **FUTURE LWRS NEEDS & PLANS**

1- It was requested on ASHA budget to establish an irrigation and soil center at AREC to be used for teaching, research and training on modern irrigation equipment and efficient water usage.

2- Hire a permanent research assistant to be trained on the newly ordered equipment for LWRS labs. The LWRS labs will be receiving microwave digester, C:N analyzer, Flame photometer, spectrophotometer, Kjeldhal unit and several additional modern lab equipment. To be able to use these high tech equipment efficiently, obtain correct results and maintain them properly, a capable and well-trained person should be hired on full time bases.

3- Add to faculty members, forestry specialist/ professor. To complement the existing activities of the department.

## DEPARTMENT OF NUTRITION AND FOOD SCIENCES

2002-2003

**Nahla Hwalla, Chairperson**

### **SUMMARY OF ACTIVITY**

The NFSC faculty members conducted their regular research and teaching activities as well as supervised work for graduate and undergraduate students. They participated in international conferences, organized national and regional seminars, and were also involved in consultancies for international organizations and regional universities.

Dr. Hussein Dib joined the Department as a part-time lecturer in Food Quality Management during Spring Semester 2002/2003.

In the academic year 2002-2003, the average total number of enrollment in the NFSC Department was: 133 students in the undergraduate ND program, 22 students in the undergraduate FSM program, and 34 students in the graduate program.

Forty-two students graduated with a B.S. in Nutrition and Dietetics, and six students graduated with M.S.: four M.S. in Nutrition and two M.S. in Food Technology.

### **PERSONNEL**

- ***Academic Personnel***

Nahla Hwalla (Ph.D., R.D.), Chairperson, Professor  
Raja Tannous (D.Sc.), Professor  
Imad Toufeili (Ph.D.), Professor  
Omar Obeid (Ph.D.), Assistant Professor  
Malek Batal (Ph.D.), Assistant Professor  
Naji Torbay (M.D.), Part-time Senior Lecturer  
Hussein Dib (Ph.D.), Part-time Lecturer (Spring 2002/2003)  
Basma Deryan Hamadeh (M.S.), Instructor (on maternal leave)  
Rana Sultan Ghandour (M.S.), Instructor  
Carla Habib-Murad (M.S.), Part-time Instructor  
Nada Adra (M.S.), Senior Research Assistant  
Ghada Ziadeh (M.S.), Departmental Research Assistant  
Farah Chaaban (M.S.), Research Assistant  
Maya Abou Jaoude (M.S.), Research Assistant  
Leila Itani (M.S.), Part-time Research Assistant  
Rima Al-Awar (B.S.) Part-time Research Assistant

- ***Non Academic Personnel***

Samir Touma, Associate Technician  
Arsine Derboghossian, Associate Technician  
Ghassan Kadi, Associate Technician  
Mustapha Rawda, Laboratory Aid

## Student Applications to NFSC Department

### Fall 2002/2003

	Applications Received	Students Accepted	Students Registered
Total UG–ND	337 (305 new, 32 transfer)	109 (85 new, 24 transfer)	33 (15 new, 18 transfer)
Total UG–FSM	58 (56 new, 2 transfer)	52 (50 new, 2 transfer)	22 (20 new, 2 transfer)
Total GRAD	54	50	29
Nut - GRAD	35	31	23 (13 new, 10 old)
FT - GRAD	19	19	6 (3 new, 3 old)

### Spring 2002/2003

	Applications Received	Students Accepted	Students Registered
Total UG - ND	45 (31 new, 14 transfer)	7 (2 new, 5 transfer)	7 (2 new, 5 transfer)
Total UG- FSM	1 new	1 new	1 new
Total GRAD	28	22	11
Nut - GRAD	18	15	10 new
FT - GRAD	10	7	1 new

## Undergraduate and Graduate Student Enrollment in NFSC Department

### Undergraduates

	Fall 2002/2003	Spring 2002/2003	Summer 2002/2003
<b>NDI</b>	38	26	2
<b>NDII</b>	52	53	10
<b>NDIII</b>	38	45	9
<b>ND Special</b>	6	7	5
<b>Total</b>	134	131	26

	Fall 2002/2003	Spring 2002/2003	Summer 2002/2003
<b>FSM I</b>	21	20	5
<b>FSM II</b>	0	0	1
<b>FSM III</b>	1	1	1
<b>Total</b>	22	21	7

### Graduates

	Fall 2002/2003	Spring 2002/2003	Summer 2002/2003
<b>Nutrition</b>	23 (21 Thesis, 2 Non-thesis)	30 (27 Thesis, 3 Non-thesis)	17
<b>FT</b>	6 (Thesis)	8 (Thesis)	4
<b>Total</b>	29	38	21

## **Undergraduate and Graduate Students Graduations from NFSC Department**

### **B.S. Students Graduation**

Fourty two B.S. students graduated from the undergraduate ND program.

- Fall 2002/2003: 6 students
- Spring 2002/2003: 36 students

### **M.S. Students Graduation**

Six M.S. students graduated from the NFSC department.

- Fall 2002/2003: 2 Nut. students
- Spring 2002/2003: 4 students (2 Nut. students, 2 FT students)

### **M.S. Thesis Students Completed (with title and date) by Advisor**

#### ***Dr. Hwalla***

- Katarina Melzer. Nutritional Status of Lebanese School Children Aged 6-9 years from Different Socioeconomic Backgrounds. Fall 2002-2003.

#### ***Dr. Tannous***

- Maya Gharios. Microbiological Quality of Selected Lebanese Fast Foods Containing Meat. Spring 2002-2003.

#### ***Dr. Toufeili***

- Hala Makhoul. Comparison of Consumer and Expert Panel Based Approaches for the Determination of the Shelf Life of Sunflower Oil and Concentrated Yogurt (Labneh). Spring 2002-2003.

#### ***Dr. Obeid***

- Talar Hagopian. The Acute Effect of High Protein Diets on Glycogen Synthesis in Rats. Fall 2002-2003.
- Rola Al-Ghali. Vitamin A and E Status in an Urban Lebanese Population: A Case Study Dar Al Fatwa Area, Beirut. Spring 2002-2003.

### **M.S. Non-Thesis Students Completed (with date) by Advisor**

#### ***Dr. Hwalla***

- Wejdan Al-Shammari. Spring 2002-2003.

## M.S. Students in NFSC Department

### *Thesis Students*

	<b>Student</b>	<b>Major</b>	<b>Advisor</b>
1.	Michele Iskandar	Nutrition	Dr. Hwalla
2.	Lynn Al Khatib	Nutrition	Dr. Hwalla
3.	Annie Dekermenjian	Nutrition	Dr. Hwalla
4.	Viken Aharonian	Nutrition	Dr. Hwalla
5.	Nancy El-Helou	Nutrition	Dr. Hwalla
6.	Katarina Melzer	Nutrition	Dr. Hwalla
7.	Wilma Zakkour	Food Technology	Dr. Tannous
8.	Maya Gharios	Food Technology	Dr. Tannous
9.	Gaby Edde	Food Technology	Dr. Tannous
10.	Randa Chlala	Food Technology	Dr. Toufeili
11.	Ghina Ghrawi	Food Technology	Dr. Toufeili
12.	Hala Makhoul	Food Technology	Dr. Toufeili
13.	Alain Bitar	Food Technology	Dr. Toufeili
14.	Nadine Abdel Ahad	Nutrition	Dr. Obeid
15.	Rima Al –Awar	Nutrition	Dr. Obeid
16.	Leila Bou-Karim	Nutrition	Dr. Obeid
17.	Talar Hagopian	Nutrition	Dr. Obeid
18.	Rola Al-Ghali	Nutrition	Dr. Obeid
19.	Nadia Aftat	Nutrition	Dr. Obeid
20.	Rita Moujaes	Nutrition	Dr. Batal
21.	Lara Kallas	Nutrition	Dr. Batal
22.	Carla Vartanian	Nutrition	Dr. Batal
23.	Rajwana Natafqi	Nutrition	Dr. Batal
24.	Cynthia Farhat	Nutrition	Staff
25.	Maya Marji	Nutrition	Staff
26.	Zeinab El-Khansa	Nutrition	Staff
27.	Zeina Jamal	Nutrition	Staff
28.	Riwa Kahali	Nutrition	Staff
29.	Ossana Nashalian*	Nutrition	Staff
30.	Suzanne Haidar	Nutrition	Staff
31.	Masarra Kasbah	Nutrition	Staff

\* Prospective graduate

### *Non-Thesis Students*

#### **Major: Nutrition**

1. Wejdan Al-Shammari
2. Nancy Milan
3. Raya Nasrallah
4. Nadine Al Jawhary
5. Noura Tayara
6. Masarra Kasbah

## Graduate Assistants in NFSC Department

### **Fall 2002/2003**

#### *Full-time GA*

Ms. Rima Al-Awar



*Part-time GA*

1. Ms. Rita Moujaes
2. Ms. Michele Iskandar
3. Ms. Lynn Al-Khatib
4. Ms. Randa Chlala
5. Ms. Lara Kallas
6. Ms. Nadine Abdel Ahad
7. Ms. Wilma Zakkour
8. Ms. Leila Boukarim
9. Ms. Maya Gharios
10. Ms. Rola Al-Ghali
11. Ms. Ghina Ghrawi

**Spring 2002/2003**

*Full-time GA*

Ms. Rima Al-Awar

*Part-time GA*

1. Ms. Lynn Al-Khatib
2. Mr. Alain Bitar
3. Ms. Zeinab El-Khansa
4. Ms. Cynthia Farhat
5. Ms. Ghina Ghrawi
6. Ms. Lara Kallas
7. Ms. Maya Marji
8. Ms. Rita Moujaes
9. Ms. Hala Nsouli
10. Ms. Michele Iskandar
11. Ms. Wilma Zakkour

**Summer 2002/2003**

*Full-time GA*

1. Ms. Michele Iskandar
2. Ms. Wilma Zakkour
3. Ms. Lynn Al-Khatib
4. Mr. Alain Bitar

**Dietetic Internship**

The Dietetic interns at AUH for academic year 2002/2003 were:

1. Ms. Dalia El-Khoury
2. Ms. Rana Abdel Khalek
3. Ms. Yara Mourad
4. Ms. Maya Bassil
5. Ms. Michella El-Habre

## RESEARCH PROJECTS OF NFSC FACULTY

### Dr. Hwalla

- Principal Investigator: Effect of Macronutrient Composition of Hypoenergetic Diets on Weight Loss, Body Composition and Blood Parameters in Females on Glucocorticoid Therapy. URB. October 1, 2002 – September 30, 2003.
- Principal Investigator: National Nutritional Micronutrient Survey: Assessment of Anemia and Antioxidant Micronutrient Status of Females in Lebanon. LNCSR. July 2003 – June 2004.
- Principal Investigator: Development of Carbohydrate-free Bread and the Effects of Herbs. IBSAR. January – December 2003.
- Principal Investigator: Estimation of the Dietary Intake of Lead, Cadmium, Radionuclides, and Essential Minerals for a Sample of the Lebanese Population: A “Total Diety Study Approach”. CEDRE. 2003-2004.
- Co-Investigator: Acute and Chronic Effects on Hyperglycemia and Lipid Profile of Water Extract of a Lebanese Indigenous Plant in Streptozotocin – Induced Diabetic Rats. IBSAR. 2003-2004.

### Dr. Toufeili

- Principal Investigator: Determination of Sensory Thresholds of Selected Calcium Salts and Formulation of Calcium-Fortified Arabic Bread. URB. October 2002 – October 2003.
- Co-Investigator: Evaluation of an Emulsion Delivering Herbal Extracts with Immunomodulation and Antimicrobial Activities. URB. October 2002 – October 2003.

### Dr. Obeid

- Principal Investigator: The Effect of Dietary Manipulation on Food Intake and Glycogen Synthesis of Glucocorticoid – Treated Rats. URB. October 1, 2002 – September 30, 2003.
- Co-investigator: Assessment of Vitamin B6 and B12 Status in the Elderly. Makassed Hospital. 2002-2003.
- Co-Investigator: Identification of Current Traditional Uses of Wild Plants in Local Foods and Assessment of their Nutritional Value and Market Potentials. Mercy Corps. February – September 2003.

### Dr. Batal

- Principal Investigator: Nutritional Status of Lebanese School Children Aged 6–9 years, from Different Socioeconomic Backgrounds. URB. October 1, 2002 – September 30, 2003.

- Principal Investigator: Identification of Current Traditional Uses of Wild Plants in Local Foods and Assessment of their Nutritional Value and Market Potentials. Mercy Corps. February – September 2003.
- Principal Investigator: Determinants of Infant Feeding Practices Across Lebanon.

## **CONSULTANCIES OF NFSC FACULTY**

### **Dr. Hwalla**

- Participated in the WHO Regional Consultation on “Nutritional Management of Diabetes Prevention and Control”. Tehran, Iran. February 2 – 5, 2003.
- Participated in the joint WHO/FAO expert consultation on Diet, Nutrition and the Prevention of Non Communicable Diseases. Geneva, Switzerland. August 24 – 28, 2003.
- Participated in the evaluation of CNRS research project entitled “Standardization of a Practical Dosage of  $\beta$ -Carotene in Lebanese Processed Fruit Juices. Study of its Degradation along with that of Vitamin C in the same Medium”. Beirut. March 28 – April 14, 2003.
- Participated in the evaluation of CNRS research project entitled “Evaluation of Local White Cheeses and Projection for Improvement of its Processing. Beirut. December 3 – 9, 2002.
- Member of the LNCSR Committee for Science and Technology Innovation Policy (STIP) related to setting priorities for Research in Food and Nutrition in the country.

### **Dr. Tannous**

- Participated, upon request of Dean Dagher, in a consultancy on a project entitled “Olive Oil Bottling”. Mokta University, Jordan. February 24 – 25, 2003.

### **Dr. Toufeili**

- Participated in a consultancy for IBSAR Project entitled “Development of Carbohydrate-free Bread and the Effects of Herbs”. AUB, Beirut. July – September, 2003.
- Participated in the WHO Joint Cooperation and Consultation Meeting. Beirut, Lebanon. 2003.

### **Dr. Obeid**

- Participated in a consultancy for a project entitled “Nutritional Status of Omani Population: Assessment of Biochemical Indicators of Vitamin Nutriture of Male and Female University Students in Oman”. Sultan Qaboos University, Oman. August 2 – 24, 2003.

### **Dr. Batal**

- Participated in a consultancy for WHO on “Communication Strategy (using CDCynergy) in Prevention and Control of Micronutrient Malnutrition”. National Nutrition Institute of the Government of Egypt/WHO/EMRO/CDC. Cairo, Egypt. September 15 – 23, 2003.

## **INTERNATIONAL ACTIVITIES OF NFSC FACULTY: CONFERENCES, MEETINGS AND WORKSHOPS**

### **Dr. Hwalla**

- Invited by Pr. D. Parent – Massin and attended a meeting to discuss the results of the Ph.D. thesis conducted by Mrs. Lara Nasreddine, under project CEDRE. Ecole Supérieure de Microbiologie et Sécurité Alimentaire de Brest, France. August 28 – September 4, 2003.

### **Dr. Toufeili**

- Presented a poster on “Comparison of Enzymatic and Colorimetric Methods for Determination of Degree of Starch Gelatinization” at the 2003 IFT Annual Meeting and Food Expo. Chicago, U.S.A. July 12 – 16, 2003.

### **Dr. Obeid**

- Participated in the Euro-Mediterranean Forum “Feeding Minds – Fighting Hunger: Dialogues Among Mediterranean Civilizations”. Lamezia Terme, Calabria, Italy. November 8 – 10, 2002.
- Presented two abstracts entitled: “The Effect of Diet Supplementation with Glutamine, Dihydroxyacetone and Leucine on the In vivo Rate of Postprandial Glycogen Synthesis” and “The In vivo Rate of Postprandial Glycogen Synthesis in Glucocorticoid – Treated Rats Maintained on Different High Protein Diets” in the Nutrition Society Summer Meeting on Individual Variability in the Nutritional Response. King’s College, University of London. July 7 – 10, 2003.
- Nominated for the Ellison Medical Foundation Fellowships in Nutrition and Infection, administered by the International Nutrition Foundation, in collaboration with UNU and the International Union of Nutrition Sciences (IUNS).

### **Dr. Batal**

- Visited McGill University, Canada. July 1st – September 1st, 2003. Beneficiary of the long-term faculty development grant.

## **ACTIVITIES OF NFSC DEPARTMENT**

### **National Conference And Exhibit on Nutrition And Optimum Health**

Dr. Hwalla organized, as President of LANFS and Chairperson of NFSC Department, a Conference and Exhibit on Nutrition and Optimum Health. She presented a lecture entitled “Dietary Management of Diabetes Type 2”.

NFSC faculty and staff members participated in the National Conference on Nutrition and Optimum Health, organized by the Lebanese Association for Nutrition and Food Sciences in collaboration with the Lebanese National Council for Scientific Research and the Department of Nutrition and Food Science. Movenpick Hotel and Resort, Beirut – Lebanon. June 5 – 7, 2003.

#### **Dr. Obeid**

- Presented a lecture entitled “Dietary Supplements” in the conference on Nutrition and Optimum Health organized by the LANFS and the NFSC Department. Movenpick Hotel, Beirut, Lebanon. June 7, 2003.

#### **Dr. Batal**

- Presented a lecture entitled “Nutritional Requirements for the Elderly” in the conference on Nutrition and Optimum Health organized by the LANFS and the NFSC Department. Movenpick Hotel, Beirut, Lebanon. June 7, 2003.

In addition to NFSC faculty members, distinguished guest speakers participated in the Conference on Nutrition and Optimum Health:

- **Dr. Artemis P. Simopoulos**, MD in Pediatrics and Endocrinology and President of The Center for Genetics, Nutrition and Health, Washington D.C., gave two lectures entitled “Mediterranean Diets: The Omega Diet” and “Diet and Genetics”.
- **Thomas Sanders**, Ph.D., Professor of Nutrition and Dietetics in King’s College, London, UK, presented two lectures entitled “Optimal Lipid Intake for Health” and “Functional Foods”. June 6, 2003.
- **Wilfred Druml**, MD, Professor of Nephrology, Clinical Hospital Vienna (AKH Wien) and Vice President of the Austrian ESPEN (AKE), Austria, presented two lectures entitled “Parenteral Nutrition” and “Dietary Management of Renal Failure”. June 6, 2003.
- **Anette Hauenschild**, Ph.D., Head of Nutrition Support Team, Justus – Leibig University Hospital, Giessen, Germany, presented a lecture entitled “Enteral Nutrition”. June 6, 2003.
- **Mr. Wim Caers**, Chemical Engineer, Regulatory and Nutrition Support Manager, Orafiti Food Ingredients, Belgium, presented a lecture entitled “Nutritional and Health Benefits of Inulin and Oligofructoses”. June 7, 2003.
- **Kunal Bagchi**, Ph.D., Regional Advisor Nutrition, Eastern Mediterranean Regional Office, WHO, Egypt, presented a lecture entitled “Overview of Nutrition in the Eastern Mediterranean Region”. June 7, 2003.
- **Fatima Hachem**, Ph.D., Regional Food and Nutrition Officer, FAO, Egypt, presented a lecture entitled “Food and Nutrition in the Near East: FAO’s Perspective”. June 7, 2003.

## PUBLICATIONS OF NFSC FACULTY

### Dr. Hwalla

- Sibai, A.M., Zard, C., Adra, N., Baydoun, M., and **Hwalla (Baba), N.** 2003. Variations in Nutritional Status of Elderly Men and Women according to Place of Residence. *Gerontology* 49 (4): 215-24. (Dr.Hwalla corresponding author).
- Bouclaous, C., Torbay, N., Nassar, C., and **Hwalla (Baba), N.** 2003. Modification of Glucocorticoid Effects on Body Weight Gain, Plasma Lipids, Feed Efficiency by Changes in Diet Composition. *Nutrition Research* 23(8): 1105 – 1115. (Dr.Hwalla corresponding author).
- **Hwalla (Baba), N.**, Jackson, R.T., Shyoun, N., Adra, A. 2003. Selected Determinants of Iron Deficiency Anemia in Women in Lebanon. *Ecology of Food and Nutrition*. *Accepted for Publication*.
- Mehio-Sibai, A., **Hwalla (Baba), N.**, Adra, N., Rahal, B. 2003. Prevalence and Covariates of Overweight and Obesity in Lebanon: Findings from the First Epidemiological Study. *Obesity Research*. *Accepted for Publication*.

### Dr. Toufeili

- Al-Kadamany, E., Khattar, M. Haddad, T., and **Toufeili, I.** 2003. Estimation of Shelf Life of Concentrated Yogurt by Monitoring Selected Microbiological and Physicochemical Changes during Storage. *Lebensmittel – Wissenschaft und – Technologie* 36 (4): 407 – 414.
- Haladjian, N., Fayad, R., **Toufeili, I.**, Shadarevian, S., Sidahmed, M., Baydoun, E., and Karwe, M. 2003. pH, Temperature and Hydration Kinetics of Faba Beans (*Vicia faba L.*). *Journal of Food Processing and Preservation* 27(1): 9 – 20.

### Dr. Obeid

- **Obeid, O.A.**, Johnston, K., and Emery, P.W. Plasma Taurine and Cysteine Levels following an Oral Methionine Load: Relationship with Coronary Heart Disease. *EJCN* (in press).

### Abstracts:

- S.T. Bitar, N. Hwalla, N. Torbey, P.W. Emery and **O.A. Obeid.** The Effect of Diet Supplementation with Glutamine, Dihydroxyacetone and Leucine on the *In vivo* Rate of Postprandial Glycogen Synthesis. *Proc Nutr Soc.*
- L. Boukarim, N. Hwalla, N. Torbey and **O.A. Obeid.** The *In vivo* Rate of Postprandial Glycogen Synthesis in Glucocorticoid-treated Rats Maintained on Different High Protein Diets. *Proc Nutr Soc.*

### Dr. Batal

- Harakeh, S., **Batal, M.**, and Barbour, E. 2003. Nutritional Consequences Related to “Mad Cow Disease” Among Homemakers and Medical Care Practitioners in Lebanon. *Ecology of Food and Nutrition* 42(3): 241 – 254.

- **Batal, M.**, Gray-Donald, K., Kuhnlein, H.V., and Receveur, O. 2003. Estimation of Traditional Food Intake in Indigenous Communities in the Yukon. (submitted for publication).
- **Batal, M.**, Gray-Donald, K., Kuhnlein, H.V., and Receveur, O. 2003. Estimation of Traditional Food Intake in Indigenous Communities in Denendeh. (submitted for publication).

## **NFSC FACULTY IN AD HOC COMMITTEES AND WORKSHOPS**

### **Dr. Hwalla**

- Represented AUB Senate at Board of Trustees Meeting. AUB New York Office, U.S.A. November 11–15, 2002.
- Represented AUB Senate at Board of Trustees Meeting. AUB New York Office, U.S.A. March 17– 21, 2003.
- Appointed by the President as a member of Task Force for offering Honorary Ph.D. Degrees.
- Member of the Committee on Nutrition Supplements at Ministry of Health.
- Member of the IBSAR Committee.

### **Dr. Tannous**

- Chairman of Committee appointed by Minister of Economy and Trade to prepare draft of Food Safety Law for Lebanon.
- Member of Ad Hoc Committee appointed by Minister of Economy and Trade to deal with the contamination problems in Tahineh and Halaweh set for export.
- Attended the National Training Course on HACCP conducted by WHO and the Ministry of Public Health. Holiday Inn Hotel, Beirut, Lebanon. October 30, 2002.
- Participated in the UNIDO Food Safety Panel Workshop. ESCWA, Beirut, Lebanon. December 11, 2002.
- Attended a workshop on “European Food Law and EFSA Work/ Evaluation of the New Lebanese Food Law”. ESCWA, Beirut, Lebanon. September 11–12, 2003.

### **Dr. Obeid**

- Member of the Scientific committee at the Nutrition and Optimum Health Conference

### **Dr. Batal**

- Member of the Organizing Committee and Facilitator at the Nutrition and Optimum Health Conference.

## NFSC DEPARTMENTAL ACTIONS

Ten Department Meetings (Nov. 5, Nov. 27, Dec. 19, Jan. 8, Feb. 10, March 10, May 9, June 16, July 1, Sept. 16) were held and the following actions were taken:

### 1. Academic Program

- **Minor in Food Science and Management:** The NFSC Department prepared the following list of courses to fulfill the requirements for a minor in Food Science and Management for both Agriculture and Nutrition students. It was recommended to use the unified list of courses for a minor in Food Science and Management. Additional courses may be required for Agriculture and Nutrition students to replace required courses common to the major and minor.

NFSC 265	Food Chemistry	3 cr.
NFSC 288	Technology of Food Products	3 cr.
NFSC 278	Food Microbiology II	3 cr.
NFSC 282	Food Quality Management	2 cr.
NFSC 290	Food Service Management	3 cr.
MKTG 210	The Marketing Function	<u>3 cr.</u>
		17 crs.

- **Minor Program in Nutrition and Dietetics:** Due to changes in number of credits, the NFSC Department has updated the list of NFSC courses required for completion of a minor in Nutrition and Dietetics as follows:

NFSC 221	Basic Nutrition	3 cr.
NFSC 274	Human Nutrition	3 cr.
NFSC 240	Nutritional Status Assessment	2 cr.
NFSC 265	Food Chemistry	3 cr.
NFSC 293	Therapeutic Nutrition	3 cr.
NFSC 222	Community Nutrition	<u>3 cr.</u>
		17 crs.

- **Modified UG – ND Program:** The NFSC faculty members recommended the following changes to the UG-ND Program:

Added Courses:

NFSC 285 “Nutrition in the Life Cycle” and NFSC 292 “Diet Therapy in Inborn Errors of Metabolism”.

Added Suggested Elective:

NFSC 282 “Food Quality Management” (2 cr.).

Deleted Courses:

Delete AGR. 201 as a required course for the Food Science and Management Program.

Need for a new NFSC graduate course: The NFSC faculty members expressed the need for a NFSC graduate course in Biostatistics.

- **Changes in number of credits:** The change of PHYL 246 “Physiology for Nursing Degree Students and Undergraduates” from 5 credits to 4 credits, as indicated by the Faculty of Medicine, necessitates modifications in the UG-ND and FSM programs as follows:



Increase number of credits of NFSC 265 "Food Chemistry" from 2 credits to 3 credits.  
Decrease number of credits of NFSC 240 "National Status Assessment" from 3 credits to 2 credits.

Decrease number of credits of NFSC 280 "Summer Training in Food Establishments" from 2 to 0 credit.

This change entails that the total number of credits for the Food Science and Management Program becomes 96 credits.

- **Changes in Catalogue:** The NFSC faculty members reviewed the catalogue sections related to the Nutrition and Dietetics, and Food Science and Management programs. Corrections and modifications were submitted.
- **NFSC 277 (Food Microbiology I)** was not offered this year. ND and FSM students had to register for AGR 224 instead.

## 2. Admissions:

In view of the large number of students in ND classes and due to limitations of resources and facilities, the NFSC faculty members voted unanimously the following: students should be considered for transfer if they complete 24 credits and obtained a minimum average of 75.

## 3. Graduate Assistantship

- NFSC faculty members voted unanimously to limit the period of graduate assistantship to a maximum of one year if it is on full-time basis or two years if it is on part-time basis (the equivalent of 21 credits).
- An evaluation system for graduate assistants, based on which renewal can be considered, was implemented. Evaluation by faculty members may constitute 50% on a scale from 1 to 5 and the remaining 50% will be dependent on academic average.
- Graduate Assistants were assigned specific tasks with NFSC faculty members, as well as specific working places.

## ISSUES PURSUED BY NFSC DEPARTMENT

### **NYSED Accreditation**

The Department academic programs (old and new) were all submitted for accreditation by the New York State Education Department.

**Mission Statements of Undergraduate and Graduate Programs:** Mission statements of undergraduate ND and FSM programs and graduate Nutrition and Food Technology programs were revised by faculty members and submitted to Ms. Elizabeth Vermey.

### **Space Allocation**

– Meeting with Dean Dagher

In response to an earlier request, the NFSC faculty members met with Dean Dagher on Monday February 10, 2003, and stressed their urgent need for a nutrition laboratory and an isolated room for the DEXA machine.

Dr. Dagher approved the following space allocations to be implemented immediately:

- Room 201 will be modified to a nutrition laboratory.
- Room 207 will be used to accommodate the oxygen consumption machine.

- Room 411 will be considered for renovation in order to store the Food Technology equipment (Farinograph, Mixograph and Texture Analyzer).

### **Central Animal House**

The Chairperson informed Dr. Michel Nasser that the NFSC Department will start placing the equipment in the assigned rooms at the Central Animal House, D.T.S.

### **Establishment of a Food and Nutrition Center at AUB**

The Chairperson worked on the proposal for the Establishment of a Food and Nutrition Center, which is a highly needed project to be funded by the AUB campaign for Excellence. The proposal was submitted to Stephan Jeffrey, Vice President, Office of Development.

### **Food Processing Pilot Plant**

The NFSC faculty members met with FPDU, on May 22, 2003, to discuss the preliminary design proposal of the new food processing pilot plant. Upon request from FPDU, the NFSC Department prepared a list of specification of equipment in order to be provided with adequate space in the new building, as well as a list of technical specifications to be provided for the design consultant. All equipment for the new pilot plant have been ordered.

### **Graduate Lab Safety**

In order to have better safety measures in the graduate lab, the chairperson requested from NFSC faculty members to have a better control on the students who are working with them and to have established safety procedures to be followed in this lab, especially with radioactive material.

### **USAID/ASHA Grant**

The Chairperson prepared the revised activity description and performance measurement plan, with the list of items to be procured by ASHA for year 2003, as follows: Feeding Analysis System and Fiber Analyzer.

The Chairperson circulated to the NFSC faculty members in their meeting of March 10, 2003, an update on the equipment received and ordered from the old ASHA Grant.

## **FUTURE DEVELOPMENT**

- The Chairperson informed the NFSC faculty members that the department is going to apply to become the WHO Collaborative Center for Nutrition.
- Need for Two New Faculty Members in Nutrition and Food Microbiology:  
The NFSC Department pointed the urgent need for two faculty members in Nutrition and Food Microbiology, within the coming 5 years, in order to satisfy student need for graduate and undergraduate courses. The new faculty members should preferably have a Ph.D./R.D.
- Dr. Hwalla prepared a revised proposal for offering a Ph.D. in Nutrition in the Department. NFSC faculty members strongly approved the proposal.
- Registration of dietetics as a profession in Lebanon.
- Offering R.D. from Lebanon.
- Reciprocity agreement with ADA to allow AUB ND graduates to take American Registration exam.

## URGENT NEEDS OF THE DEPARTMENT

### 1. Space

The NFSC department grew in number of faculty and students over the years with no provision of space allocation.

#### *Labs needed*

- Nutrition Research Lab
- Organoleptic Lab with a food serving room
- Food Microbiology Lab
- Small room for blood collection
- Room for the O<sub>2</sub>-Consumption machine in close proximity to the DEXA machine (a large piece of equipment for body composition determination)

#### *Animal House:*

It was agreed that the department will use the animal house located at the Medical school.

#### *Office Space for staff:*

1. Offices for Nutritionist and Food Microbiologist
2. Room for Graduate Assistants
3. Room for Research Assistants

#### *Storage Spaces:*

- Cold room for chemicals, solvents, acids, etc.
- For nutritional assessment equipment and visual aids for dietary surveys

### 2. Recruitment Schedule:

Hiring urgently a nutritionist and food microbiologist for the Nutrition UG and GRAD programs and the new Food Science and Management Program.

### 3. Facilities

- Fume hoods need to be replaced urgently, since the existing ones do not function properly and do not meet the International Safety Standards.

## DEPARTMENT OF PLANT SCIENCES

2002-2003

Adib Saad, Chairperson

### INTRODUCTION

The usual undergraduate and graduate teaching programs by faculty members in the department continued as planned, however, a few elective courses were not offered due to low student enrollment in the general agriculture program. Research activities progressed very well and research productivity increased to compensate for the lower teaching load of some faculty members. Faculty members were very active in their participation in scholarly conferences and scientific meetings.

The Landscape Design and Eco-Management program, in its third year, proved to be a successful program attracting many students and fulfilling a needed area of study for Lebanon and the region AUB serves. The registration of the new BS LDEM with the New York State Board of Education Department was approved.

This Spring Term, the LDEM Program had its first resident class at AREC. Preparations were undertaken to establish a studio, computers and the minimum requirements that would enable the teaching of landscape design.

Information on departmental personnel, teaching, research and publications, and professional activities of faculty members during academic year 2001-2002 are stated briefly on the following pages.

### PERSONNEL

#### *Faculty*

Abou-Fakhr Hammad, Efat, Ph-D, Associate Professor of Entomology

Abou Jawdeh, Yusuf, Ph-D, Professor of Plant Pathology

Baalbaki, Riad, Ph-D, Associate Professor of Plant Physiology

<sup>1</sup>Haidar, Mustapha, Ph-D, Associate Professor of Weed Sciences

Kawar, Nasri, Ph-D, Professor of Pesticides, part-time

Makhzoumi, Jala, Ph-D, Assistant Professor of Landscape

Saad, Adib, Ph-D, Professor of Plant Pathology

Talhok, Salma, Ph-D, Associate Professor of Horticulture

Weltzien, Julie, M.A., Visiting Assistant Professor of Landscape Design

Yau, S.K., Ph-D, Associate Professor of Plant Breeding

#### *Senior Research Assistant*

Husseini, Salma

#### *Research Assistants*

Adossides, Anthoula., M.Sc., full-time\*

Daouk, Mona, B.Sc., full-time\*

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<sup>1</sup> Sabbatical leave (August 1, 2002-July 31, 2003) at North Carolina State University.

\* On Grants

Debian, Nahed, M.Sc., part-time\*  
 El-Salibi, Ibrahim, M.Sc., full-time\*  
 Haddad, Carole, B.Sc., part-time\*  
 Hanna, Lucia, B.Sc., full-time  
 Kawtharani, Hadia, B.Sc., part-time\*  
 Kharrat, Doreen, M.Sc., part-time\*  
 Nemer, Nabil, M.Sc., full-time  
 Sleem, Khaled, B.Sc., full-time\*  
 Sobh, Hana, M.Sc., full-time\*  
 Wardan, Rania, B.Sc., part-time\*

***Graduate Assistants***

Abdo, Carla  
 Abi Ghanem, Rita  
 Chamoun, Rony  
 Eid, Sahar  
 El-Mehtar, Shoaab  
 Karame, Joumana  
 Nasrallah, Rania  
 Nehmeh, Maya  
 Zeaiter, Abdallah

***Non-Academic Personnel***

Abu Samra, Elias                      Greenhouse custodian  
 Kayyal, Hatem                         Agronomy Foreman  
 Yazbek, Ali                                Assistant Agronomy Foreman

**TEACHING ACTIVITIES**

***1. Courses and Enrollment***

	<b>No. of students</b>	<b>Core courses</b>	<b>Electives</b>	<b>Others</b>
<b><u>Fall</u></b>				
Undergraduate	135	8	1	1 tutorial
Graduate	18	1		3 tutorials 2 seminars Thesis
<b><u>Spring</u></b>				
Undergraduate	144	12	3	
Graduate	15	2		2 tutorials 1 seminar Thesis
<b><u>Summer 01</u></b>				
Undergraduate	55	3		
Graduate	7			1 tutorial 1 seminar Thesis

## 2. No. of graduate students enrolled and graduated

	<u>No. of students</u>
<b><u>Fall</u></b>	
Enrolled	1 (Plant Science), 8 (Plant Protection)
Graduated	1 (Plant Protection)
<b><u>Spring</u></b>	
Enrolled	2 (Plant Science), 7 (Plant Protection)
Graduated	0 (Plant Science), 4 (Plant Protection)
<b><u>Summer</u></b>	
Enrolled	1 (Plant Science), 3 (Plant Protection)
Graduated	1 (Plant Sciences)

## RESEARCH AND PUBLICATIONS

### 1. Research Projects with Main Investigator(s)

- Biological Control of insect pests: Safflower pests as a case study. **Dr. E. Abou Fakh Hammad.**
- Determination of bioactive compounds in Melia azedarach extracts against economic insect pests on vegetable crops. **Dr. E. Abou Fakh Hammad.**
- Selected Lebanese plant flora as natural products to control plant pests. **Dr. Y. Abou Jawdeh.**
- Development of a regional viral indexing and certification program for plant propagation materials in the Middle East. **Dr. Y. Abou Jawdeh.**
- Breeding of pickling cucumber for resistance to *Cucurbit yellow stunting disorder virus*. **Dr. Y. Abou Jawdeh.**
- Detection of some genetically modified foods and crops in Lebanon. **Dr. R. Baalbaki.**
- A study of garden landscapes in Beirut: the design and the vernacular. **Dr. J. Makhzoumi.**
- Generation of New plant-derived commercial products from indigenous Lebanese plants or other ecologically appropriate ones, Phase II (Mercy Corps). **Dr. S. Talhouk.**
- Integrating regional expertise in Biotechnology for sustainable exploitation of plant genetic resources in the Mediterranean region (EU-DGI/CIHEAM). **Dr. S. Talhouk.**
- The INDEVCO/AUB apple project. **Dr. S. Talhouk.**
- Characteristic, host range and control of fire blight disease of pome fruits in Lebanon. **Dr. A. T. Saad.**
- Host range and characterization of *Pseudomonas savastanoi* pathovars in Lebanon. **Dr. A. T. Saad.**
- Agronomic studies on improving safflower. II. N fertilization and supplementary irrigation. **Dr. S.K. Yau.**
- Breeding / Selection of rainfed safflower, winter cereals, and legumes for semi-arid areas of Bekaa. **Dr. S.K. Yau.**
- Barley-based long-term rotations for sustainable and quality feed production, Phase II. **Dr. S. K. Yau.**
- Introduction of saffron for the Bekaa. I. Selection and agronomic studies. **Dr. S.K. Yau.**

## 2. Articles Published

- Abi Harb, K., W. Khoury, E. Choueiri, **L. Hanna** and **A.T. Saad**. Management of apple blossom blight by chemical treatments, 2001. Fungicide and Nematocide Tests, Volume 58: PF013, 2003.
- Abou-Fakhr Hammad, E.M.** "Melia azedarach L., The Biopesticidal tree" and "Some Insect and Mite Pests and their Natural Enemies (Parasitoids and/or Predators) in the Middle East". Sections in Encyclopaedia of Entomology, USA. In Press.
- Abou-Fakhr Hammad, E.M.**, and N.M. Antar. 2003. Efficacy of selected insecticides on *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) in navel orange (*Citrus sinensis* L.). *Tests of Agrochemicals and cultivars* 24. Accepted.
- Abou-Jawdah, Y.**, A. Karakashian, **H. Sobh**, M. Martini and I.M. Lee. 2002. An epidemic of almond witches'-broom in Lebanon: classification and phylogenetic relationship of the associated phytoplasma. *Plant Disease*: 86: 477-484
- Abou-Jawdah, Y.**, **H Sobh**, and A. Salameh. 2002. Antimycotic activities of selected plant flora, growing wild in Lebanon, against phytopathogenic fungi. *Journal of Agriculture and Food Chemistry*: 50: 3208-3213
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**Talhok, S. N.**, N. Sinno Saoud, and S. L. Jury. 2003. Work on the Post Herbarium at the American University of Beirut. *Bocconeia* 6 (1) 289-291.

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**Yau, S.K.**, M. Bounejmate, J. Ryan, A. Nassar, **R. Baalbaki**, and R. Maacaroun, 2003. Barley-legumes rotations for semi-arid areas of Lebanon. *European journal of Agronomy* 19: 599-610.

### **3. Proceedings of Conferences**

**Abou-Jawdah Y. (Ed.)** 2002. Integrated Production and Protection Management of Greenhouse Crops. Proceedings of the FAO/AUB first National Conference. Beirut Feb. 7, 2002 (pp. 187).

**Abou-jawdah Y. (Ed.)**. 2002. Fourth coordinating meeting of the FAO regional working group on greenhouse production in the Mediterranean region. Beirut Feb. 2-7, 2002. (pp. 180).

### **4. Abstracts**

**Abou Jawdeh, Y.**, A. Karakashian, H. Dakhil, S. El-Mehtar, and I.M. Lee. 2003. Almond witches's-broom phytoplasma, an epidemic disease in Lebanon. *The 2003 Annual Meeting of the American Phytopathological Society*, North Carolina, USA. August 9 to 13, 2003.

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**Yazbek, M.** and **S.K. Yau**, 2002. Divergent selection of growth vigor on safflower yield. In abstracts of the *Annual Meeting of the American Society of Agronomy*, Crop Science Society of America, and Soil Science Society of America, Indianapolis, Indiana, USA, Nov. 10-Nov.14, 2002.

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American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America, Indianapolis, Indiana, USA, Nov. 10-Nov.14, 2002.

### **5. Master's Theses**

Akkary, Marwan, 2003. Screening selected plants against *Tetranychus urticae* and *Liriomyza huidobrensis* and solid phase extraction of *Melia azedarach*. Advisor: Dr. E. Abou Fakhr Hammad.

Cordahi, Nada. 2002. Development of molecular biology techniques for the diagnosis of *Prunus dwarf virus*. Advisor: Dr. Y. Abou Jawdeh.

Dakhil, Hala. 2002. Stone fruit phytoplasma: Molecular diagnostic techniques, survey of leafhopper populations and graft transmission. Advisor: Dr. E. Abou Fakhr Hammad. Co advisor: Dr. Y. Abou Jawdeh

El Mehtar, Shoa, 2003. Development of molecular techniques for specific detection of almond and tomato phytoplasmas. Advisor: Dr. Y. Abou Jawdeh.

Hourani, Hala, 2003. Development of serological assays for diagnosis of *Cucurbit yellow stunting disorder virus* using molecular techniques. Advisor: Dr. Y. Abou Jawdeh.

Kawtharani, Hadia, 2003. Development of molecular biology techniques for the detection of *Prunus necrotic ring spot virus*. Advisor: Dr. Y. Abou Jawdeh.

## **PROFESSIONAL ACTIVITIES AND SERVICES**

### **1. Scientific Meetings and Conferences**

Dr. Y. Abou Jawdeh attended the meeting for the *Virus Indexing and Tomato Breeding Project* that will be held in Malaga, Spain. February 7-15, 2003

Dr. R. Baalbaki attended the Final Seminar on "Regional Action Program-Conservation and Management of Natural and Renewable Resources-1998-2003". EC (AIDCO)-CIHEAM. Chania, Greece. June 6-7, 2003.

Dr. J. Makhzoumi participated in the following activities:

- Conference on Protected Areas, organized by the World Conservation Union, IUCN Center for Mediterranean Cooperation, Murcia, Spain, 26-30 March 2003.
- World Parks Congress in Durban, organized by the World Conservation Union, IUCN, sponsored by the National Commission for Wildlife Conservation and Development, Saudi Arabia. Durban, South Africa, 8-17 September, 2003.

Dr. S. Talhouk attended the following activities:

- Seminar on "Defining Important Plant Areas in the Mediterranean Region". IUCN Centre for Mediterranean Cooperation, Malaga, Spain, June 27-28, 2003.
- TWNSO-GEF-UNEP International Conference on "Implementing Programmes to Conserve Biodiversity in Arid and Semi-Arid Regions in Developing Countries". Rabat, Morocco, August 27-30, 2003.

Dr. J. Weltzien attended the “Conference on Building / Body / Movement (Bau / Koerper / Bewegung) organized by the Hamburg Summer of Architecture, Hamburg, Germany, April 2003.

## **2. Workshops**

Dr. E. Abou-Fakhr Hammad attended the following workshops:

1. “Implementing novel approaches in Plant Protection in Lebanon, Organic farming systems in Plant Protection”. Sponsored by The Engineers Ordre-Agriculture Branch & Arab Society for Plant Protection. Beirut, Lebanon. December 21, 2002.
2. “Research priority setting and regulatory issues in crop protection in Lebanon, Future priorities related to IPM research in Lebanon”. Organized by Lebanese National Council for Scientific Research & Arab Society for Plant Protection. Beirut, Lebanon. October 24, 2002.

Dr. Y. Abou Jawdeh participated in the following workshops:

1. “Italian innovations and technologies in olive growing and oil quality”. Tripoli, Lebanon, October 30-31, 2002.
2. “Agricultural Pollutants and Control”. Organized by USAID/Creative Associates international, AREC, Lebanon. March 29, 2003.
3. “IPM in olive orchards”. Organized by the Moawad Foundation in Koura and Douma, Lebanon. April 5 and 12, 2003.
4. “IPM in apples and field visits”. Organized by YMCA in Kartaba and Bekaa, Lebanon. Sept. 16, 2003.

Dr. R. Baalbaki attended the following workshops:

1. “Cultivation of Wild Herbs”. Sponsored by Mercy Corps, USDA, Beirut, Lebanon. May 30, 2003.
2. Workshop on Biodiversity Opportunities in Lebanon-Production and Industry. Co-sponsored by the Lebanese Ministry of the Environment and AUB. March 27-28, 2003.

Dr. M. Haidar gave lectures in Sustainable Agriculture for Forage Crops: Weed Management. Sponsored by USAID and USDA, AREC, Bekaa, Lebanon. August 13-18, 2003.

Dr. A. Saad attended the workshop on “Italian innovations and technologies in olive growing and oil quality”. Saida, Lebanon, October 28-29, 2002.

Dr. S. Talhouk organized and coordinated the following workshops:

1. “Biodiversity Opportunities in Lebanon”: focused on issues of interest to local industries using natural products, jointly coordinated with the Ministry of Environment. Consultant: J. Nasser (U.K.), AUB, 27-28 March 2003.
2. “Cultivation of wild plants”: focused on production protocols and quality standards of wild plants with economic potentials. Consultant: M. Sanekli (Tunisia), AUB, May 30, 2003.
3. “Legislation and Biodiversity Opportunities: The Costa Rican Experience”: focused on exchange of information and experience between the representative of the Ministry of Environment in Costa Rica and representative from INBio with Lebanese decision makers, lawyers and IBSAR members in relation to legislation, research and economic opportunities, jointly coordinated with the Ministry of Environment and Earth University Costa Rica. Consultants: J. Cabrera and E. Wo-ching (Costa Rica), AUB. June 17-18, 2003.
4. “Intellectual Property and Biodiversity: their impact on Legislation and Agricultural development”: focused on the impact of Intellectual property and

biodiversity on Legislation and Agriculture Development, jointly coordinated with Ministry of environment. Consultants: J. Dodds and A. Krattiger (SWIFTT/Cornell), AUB, June 30 – July 1, 2003.

Dr. S.K. Yau held a half-day workshop for 25 farmers and their wives from Deir Ahmad area on safflower harvesting and pressing safflower seed for oil. Sponsored by Canada Fund. July 25, 2003.

### **3. *Miscellaneous Services***

Dr. E. Abou Fakhr Hammad served as 1) Consultant for the Management of Mediterranean Fruit Fly as a postharvest pest on citrus. Investment Development Authority of Lebanon (IDAL). 2002-03; 2) Consultant in the project "Greywater treatment and reuse in Agriculture in a cluster of 6 towns, West Beqaa, Lebanon. (IDRC Research Project, 2002-05).

Drs. N. S. Kawar and A. Saad, members of the Editorial Committee of Phytosanitary Products of Lebanon 2003.

Dr. A.T. Saad lectured on “fungal and bacterial diseases of stone fruits” at the International Center for Advanced Mediterranean Agronomic Studies (ICAMAS), April 7-14, 2003, Valenzano, Italy.

Dr. S. Talhouk prepared the Second national Report of Lebanon to the Convention on Biological Diversity on behalf of the MOE . October 2002.

# AGRICULTURAL RESEARCH AND EDUCATION CENTER

2002-2003

**Mohamad T. Farran, Director**

## **Teaching and Research**

- Provided assistance to faculty members currently engaged in research and teaching at AREC, as requested.
- AGRL I students, as part of AGRL 201 Orientation to Agricultural and Food System course, were given a lecture by the Director and toured AREC facilities (Nov. 16, 2002).
- AG III students participated in seedbed preparation and planted winter crops. (Nov. 16, 2002).
- Fifteen AGRL III and nine LDMG III students arrived at AREC on March 9, 2003 to continue the spring semester.
- Spring and summer semesters ended as scheduled.

## **Production**

- Performed farming operations according to crop conditions and needs.
- Carried out routine operations in the Animal Division according to established management practices.
- Provided surplus produce to AREC Cafeteria, AUB Pilot Plant, and AUH Dietary Department.
- Continued providing surplus fresh cow milk to Ta'anayel Center (Abella).

## **Alterations, and Improvements**

- Transferred PCU wireless city telephone system from NEH to Agronomy building in an effort to improve connection (Oct. 25, 2002).
- Rehabilitated the three rooms in VIB and transformed it into a studio for Landscape Design Management Program (Dec. 20, 2002).
- Installed a refurbished greenhouse in plot C-13 for PLSC research
- Rehabilitated AMD wet area
- Repaired basketball play ground
- Installed insect proof greenhouse for resistance screening of cucumber varieties
- Installed three AC units in the faculty duplex
- Installed aluminum windows and doors in AMD building.
- Renovated and installed new dairy milking parlor with individual cow identification system.
- Installed three dairy automated feed dispenser units with two auger silos.

## **On-going Projects**

- Continued work on:
  1. Power Plant Project (AREC Generator Room)
  2. Construction of Cold Storage and Seed Bank.

3. Installation of aluminum windows and doors in the library and Director's residence.
4. Computer Network project.
5. Glass house.

### **Future Plans**

1. Designated area and facilities for Landscape, Design, and Eco-Management courses projects.
2. Construction of a second floor on existing AWD building.
3. Aluminum windows for AWD.
4. Face lifting kitchen, cafeteria, and library area.
5. Solar energy system on existing buildings.
6. Insulated poultry experimental unit.
7. Facility to house avian species other than domestic chicken.
8. Designated area and facilities for organic farming.
9. Facility for Free Range chicken farming.

### **AREC Staff**

- AREC Director Dr. M.T. Farran was appointed Advisor (non-remunerated) to the minister of agriculture and cooperatives on May 26, 2003.
- Mr. Nicolas Haddad appointed as Farm Crop Production and Protection Supervisor on Oct. 15, 2002.
- Mr. Amer Najm resigned as Full-time Research Assistant in AREC Administration, on Nov. 30, 2002.
- Mr. Hussein Sabra, Livestock and Poultry Production supervisor, submitted his resignation effective September 30, 2003.

### **Exchange student program**

- Mr. Luis Gomez, EARTH University exchange student joined AREC (June 25-August 31, 2003).

### **New Equipment**

- Received a new M.F. 240 tractor with trailer (Nov. 8, 2002).
- Received a potato planter and a forage trailer.

### **Visitors**

- Dean Dagher on regular basis.
- Scouts from Lebanese Scouts Association camped at AREC on different dates.
- Mr. Robertten Cate of Meyn Co. to see the newly installed slaughter house (Oct. 8, 2002).
- Dr. James Andrew Tiedeman, Forage management specialist from ICARDA (Dec. 16, 2002).
- Several visitors from INDEVCO Institution (Jan. 9, and May 20, 2003).
- Around 400 students in the New Students Orientation Program.
- Arab Beirut University graduates.
- Ten professors from Jordan University (May 10, 2003).
- Student Field Trips: Nasserieh Agricultural School (April 29, 2003), Eastwood College (May 15, 2003) Kherbet Rouha Nibras Vocational Agriculture School (May 21, 2003), Fanar Agricultural School (May 26, 2003), and AUB Environmental Health (Aug. 14, 2003).

- Twenty five Nutrition students accompanied by Dr. R. Tannous (May 23, 2003).
- H.E. Ali H. Khalil, Minister of Agriculture and Cooperatives, Republic of Lebanon, accompanied by Deputy Marquis Nabil de Freiji on May 23, 2003.
- James E. Elsass from Sane Northwestern University (August 23, 2003).

### **Workshops**

- Entrepreneurial Training Foundation Workshop (Oct. 3-6, and 10-13, 2002).
- Forage production Workshops to Lebanese farmers (Oct. 5, and 20, 2002, March 14-15, April 17-18, May 22-23, and June 16, 2003).
- Agricultural Vehicle Driving workshops to drivers from “Assosiation d’Aide au Development Rural” (Oct. 3-6, 2002).
- “Traffic Safe Driving Education” workshop given to AREC and Quaroun Project drivers (Nov. 15, 2002).
- Four Workshops (13 working days) on “Project Establishment” by Creadel Liban (Nov. 15- Dec. 14, 2002).
- Creative Associates International (March 29, 2003).
- John Deer Training Program (Aug. 11-13, 2003).
- Green Plan Irrigation workshop (July 24-26, July 31-Aug. 2, and Aug. 7-8, 2003).

### **Golden Anniversary Celebration**

- As part of the 50<sup>th</sup> anniversary celebrations program of the foundation of Faculty of Agricultural and Food Sciences, FAFS alumni and friends spent a day at AREC on Oct. 26, 2002.

### **Activities**

- H.E. Vincent Battle, the US Ambassador in Lebanon, gave an address to the participants of Forage Production Workshop and distributed certificates (Dec. 20, 2002).
- Aggie Olympics (May 11, 2003).
- Supervisors Hussein Sabra, Hazem Yaghi, and Nicolas Haddad attended a workshop on Performance Planning and Appraisal Form (June 2, 2003).
- Family Day at AREC organized by Alumni Club (June 29, 2003).
- ICARDA/FAFS Field day (July 25, 2003).
- FAFS/UNIFERT field day (Aug. 12, 2003).
- Sweet corn day (Aug. 16, 2003).
- Service Award Presentation to eight AREC employees (Aug. 20, 2003).

### **Miscellaneous**

- The Director invited AREC Employees and workers for an Iftar dinner (Nov. 26, 2002).
- Installed a drip irrigation system in the orchard for the new apple root stocks (June 12, 2003).
- Contained flooding of Sbatt river that started on April 3, 2003.
- Mr. Ghattas Akl donated AREC 200 kg of lawn seeds, and 4 Celtis australis tree seedlings (planted in the library recreation lawn).
- Transplanted 8000 apple rootstocks in the orchard, INDEVCO Project (April 29, 2003).
- Sold culled animals at different dates.

# INTER-FACULTY ENVIRONMENTAL SCIENCES PROGRAM

## Ecosystem Management

2002-2003

R. Zurayk - Coordinator

The present annual report covers the academic year 2002-2003.

### I. Courses offered and students enrollment

A total of three courses were taught, covering some aspects of ECOM. A total of eighteen students were enrolled during 2002-2003 in Ecosystem Management (ECOM). Among these students, twelve were newly enrolled; the others were continuing. Four students graduated this year.

Course Code	Course description	Semester	Faculty Members
ENSC 630	Natural Resources Management	Spring 02-03	Dr. R. Zurayk
ENSC 631	Agricultural Pollution and Control	Spring 02-03	Dr. N. Kawar (Coordinator), Dr. I. Bashour
ENSC 690	Seminar in Environmental Sciences	Spring 02-03	Dr. R. Zurayk & Dr. I. Nuwayhid
ENSC 202	Environmental & Sustainable Development	Fall 02-03	Dr. R. Zurayk & Dr. Shadi Hamadeh

### II. Meetings, Workshops and Academic activities

a- IDRC invited the IGESP director, Dr. Rami Zurayk, to share AUB's experiences because the program presents a unique interdisciplinary educational/training model. As a result, the IGESP was strongly represented at the International Forum on "*Ecosystem Approaches to Environmental Health*" which was held in Montreal, Canada on May 18-23, 2003. Dr. Rami Zurayk, Dr. Rima Habib and Dr. Iman Nuwayhid (served on the Program Advisory Committee for the Forum) attended it and presented five sessions:

- Two sessions presented by Dr. Rami Zurayk on the subject of the "*Success of and Challenges to the Institutionalization of an Interdisciplinary Program (IGESP) in an Academic Institution (AUB)*" and the "*Need to Integrate Research Activities within Development Projects*". He also contributed to the discussion about the initiation of a Community of Practice in Ecohealth.
- Two sessions presented by Dr. Iman Nuwayhid on "*The Lead Project in Aisha Bakkar*" focusing on the need for researchers' agenda to reflect the community's environmental priorities. The second session was a 10 minute oral presentation on Interfaculty Graduate Environmental Sciences Program (IGESP).
- One session presented by Dr. Rima Habib on the subject of "*Community Participation in an Urban Health Project*".

b- Publication of a paper entitled "**AN INTERDISCIPLINARY APPROACH TO ENVIRONMENTAL EDUCATION**" which was written by L. Semerjian, M. El-Fadel, R. Zurayk, and I. Nuwayhid and accepted for publication in ASCE Professional

Issues in Engineering Education and Practice. This paper examined the need for an interdisciplinary educational approach in environmental engineering and science, discussed the constituents of interdisciplinary environmental education, and addressed its advantages. The case of interdisciplinary environmental education within the Interfaculty Graduate Environmental Sciences Program at the American University of Beirut was then presented. Specifically, it described its structure, content, and performance in terms of mission accomplishment, student enrollment, and marketability of its graduates. Future curriculum development and constraints were also examined.

- c- IGESP and Core Lab jointly participated in the "World Environmental Day" on 5th June at the Phoenicia Hotel, Beirut.

### **III. Other activities**

- a- Preparing and submitting all the needed documents to register the ECOM major and its degrees with the New York State Department of Education.



**SECTION C**  
**REPORTS OF COMMITTEES**

## **THE ADMINISTRATIVE COMMITTEE**

**2002-2003**

The Administrative Committee, chaired by Dean N. Dagher, and including all FAFS chairpersons: Drs. I. Bashour, Land & Water Resources Department; S. Hamadeh, Animal Science Department; N. Hwalla, Nutrition and Food Science Department and A.Saad, Plant Science Department. During the absence of Dr. Hamadeh on the periodic paid research leave from February 2003 till September 1, 2003, Dr. Dagher served as the Acting Chairman of the Animal Science Dept.

The Committee held six meetings during the academic year 2002-2003.

During the year, routine business was handled by the committee included appointments of departmental graduate assistants, modifying space allocation to the different departments; as well as advising the Dean on budget related issues especially on major equipment and various matters related to AREC.

**Prepared by**

**Wafa Khoury**  
**Secretary**

## **THE ADVISORY COMMITTEE**

**2002-2003**

The Advisory Committee was composed of Dean Daghir (Chairman) and six elected Professors, namely Drs. Abou-Jawdeh (Secretary), Hwalla, Nimah, Saad, Sleiman and Tannous.

The Committee held nine meetings during the academic year 2002-2003. Actions taken during these meetings included recommendations on the following subjects:

1. Appointment of two new faculty members (Horticulturist and Food Microbiologist).
2. Renewal of contracts of six faculty members.
3. Promotion of an Associate Professor to Full Professor.
4. Actions on 21 requests for short term faculty development or leave with pay.
5. Approval of two requests for sabbatical leave.
6. Approval of one request for long term faculty development.
7. Renewal of contract of a visiting Assistant Professor.
8. Renewal of contracts of two instructors.
9. Appointment of part timers (13 actions)
10. Appointment of an Associate to the Faculty.

**Prepared by  
Y. Abou-Jawdah**

## THE ACADEMIC & CURRICULUM COMMITTEE

2002-2003

The members of the Academic and Curriculum Committee for the year 2002-2003 were: Dean Dagher (Chairperson), Drs. Abou Fakhr Hammad (Undergraduate Agr/Coordinator), Bashour, Hamadeh, Hwalla (Undergraduate ND/Coordinator), Makhzoumi (Undergraduate LD/Coordinator), Saad, Tannous (Undergraduate FSM/Coordinator), SRC and Registrar's representatives.

The Committee met 12 times during the period of October 1, 2002 until September 30, 2003, and voted on 183 items. The Committee members discussed course offerings, recommending students for graduation, to graduate students with distinction and high distinction, transfer of credits, student probation, AREC program, and several others. The highlights of activities are listed below:

### **A. Student's Status**

The Committee reviewed students status at the end of each semester and voted on the following:

1. 40 students from all undergraduate programs were placed on probation.
2. 14 students from AGR and one student from FSM were dismissed.
3. 12 students from all undergraduate programs were removed from probation
4. 74 students from all undergraduate programs were placed on the Dean's Honor List.

### **B. B.S. in Veterinary Science**

The Committee discussed the proposed four-year program and it was decided that further revision and modifications for the program were needed.

### **C. Courses in FAFS for Students Registered in Intensive English**

The concern about students registered in Intensive English was discussed. The Committee indicated that students need to be strong in English in order to take FAFS courses. However, it was decided that students can take Math and/or Arabic or AGRL 270 (Computer Application in Agriculture) while registered for IEP.

### **D. AREC Program**

24 students were eligible to go to AREC. 15 from Agriculture and 9 from Landscape.

### **E. Promotion Criteria within Landscape Program**

Promotion for the Landscape program was approved as follows:

- LDEM I to LDEM II upon the completion of 33 or more credits
- LDEM II to LDEM III upon the completion of 69 or more credits
- LDEM III to LDEM IV upon the completion of 107 or more credits

**F. Minor and Second B.Sc. In Landscape**

The Committee suggested that students with a B.Sc. in science, agriculture or related fields can apply for a 2nd B.Sc. provided they complete all LDEM III and LDEM IV courses and all design courses. This might require an extra year over and above the requirement for a 2nd B.Sc.

**G. Substitution of AGR 224 by NFSC 277**

The Committee approved the substitution of AGRL 224 (Microbiology) by NFSC 277 (Food Microbiology I) for ND students.

**H. Recommendation for Graduation**

The Committee recommended to the Faculty 17 students for the Degree of B.Sc in Agriculture and Diploma of Ingenieur Agricole and 42 students for the Degree of B.Sc in Nutrition and Dietetics.

**I. Deletion of AGRL 201 for FSM Program**

The Committee approved the deletion of AGRL 201 as a required course for the Food Science and Management Program.

**J. Transfer Policy**

The transfer policy was discussed. Students registered in FAFS and wanted to transfer to other faculties should take 50% of the required core courses by FAFS and attain a cumulative average of 70.

**Prepared by  
Rabia Koubayssi**

## THE ADMISSIONS COMMITTEE

2002-2003

The elected members of the Admissions Committee during the period of 2002-2003 were the following: Dr. Nuhad Dagher (Chairman), Drs. Elie Barbour (Secretary), Isam Bashour, Jala Makhzoumi, and Imad Toufeili. This Committee met 8 times and mostly in the presence of the Associate Director of admission and Miss Tharwat Haddad (by invitation). The decisions regarding admissions of students to undergraduate programs in FAFS, and the decisions related to admissions rules and regulations were voted upon among the members of the committee (Table 1). The activities of this committee could be summarized into the following:

### A. Students Admissions:

The applications and the records of undergraduate applicants to FAFS were studied individually by the Admissions Committee. This included the average of the last two years in secondary school, the verbal and math scores of SAT I and the composite score. After a thorough study of the performance of each applicant, a vote was taken by the committee members to recommend to the chairman of the committee the admission or denial of the applicant.

### B. Admission Regulations:

The Admissions Committee had many discussions and voted for decisions regarding important issues in Admission of undergraduates to FAFS.

The major decisions were:

1. Agreed upon to accept students to AGRI and FSMT for spring 2003 with a composite score of  $\geq 425$ , LDEM with a composite score  $\geq 450$ , and NTDT with a composite score of  $\geq 550$ .
2. Dean Dagher informed the invited persons and members of the Admissions Committee of the criteria for early admissions based on Verbal and Math SAT score of  $\geq 1200$  and a class rank in the upper 40%.
3. Agreed upon to accept students to AGR, LDEM and FSMT for fall 2003-2004 with a composite score of  $\geq 450$ , and NTDT with a composite score of  $\geq 550$ .
4. Agreed on accepting transfer students on the basis of completion of two semester ( $\geq 24$  credits) or more within FAFS or at another faculty in or outside AUB with a cumulative average of  $\geq 70$  or GPA  $\geq 3.0$ .
5. Miss Nafah recommended that all accepted applicants requiring the delay of admission for a semester will be accepted to their respective major of study and a list of those will be prepared and forwarded automatically from the admission office to FAFS.
6. Dr. J. Makhzoumi recommended to all members of the Admissions Committee to designate courses offered by the Landscape and Eco-management program as LDEM instead of LDMG (4-0-0).

7. Petitions of students related to admission to FAFS were studied individually by the committee. Decisions were voted upon within the set rules and regulations for admissions to FAFS.

**Examples of such petitions were:**

1. Petition of Miss Dalia Saadeh who has been accepted to Agriculture program to be admitted to Food Science and Management.
2. Petition of Mr. Farid Habib's to postpone his acceptance to Agriculture from fall to spring 2003-2004

Etc...

Table 1. No. of Applicants accepted to the four different majors in FAFS

Fall 2003-2004	New		Transfer	
	Applications Received	Students Accepted	Applications Received	Students Accepted
UG NUTR	326	84	62	45
UG AGRI	264	190	12	5
UG LDEM	111	86	4	2
UG FSMT	101	119*	7	5

\* Students accepted to FSMT based on 1<sup>st</sup> choice and 2<sup>nd</sup> choice (beside the NUTR).

**Prepared by  
Tharwat Haddad**

## **THE GRADUATE STUDIES COMMITTEE**

**2002-2003**

The members of the Graduate Studies Committee for the year 2002-03 were: Dean Dagher (Chairman), Drs. Darwish, Hamadeh, Nimah (Graduate Coordinator), Talhouk, Tannous, Zurayk, Registrar, Director of Admissions, Faculty representative on the board of Graduate Studies (BGS). Dr. Tannous is also the representative on the BGS.

The Committee held seven meetings during 2002-2003 and voted on 81 items. Actions taken during these meetings included the following:

1. Accepted 60 applicants for the first semester, 2002-2003. Five applicants were not accepted. Of the 60 accepted applicants 26 registered for the first semester bringing the total of the enrolled graduate students to 73. Accepted 23 applicants for the second semester, 2002-2003 and 21 registered bringing the total enrolled graduate students to 84. Six applicants were not accepted.
2. Approved the program of study of 26 students.
3. Approved the thesis titles of 23 students.
4. Placed two students on probation effective February 2003 and removed one student from probation effective February 2003. Two students were removed from probation effective July 2003.
5. Acted on a number of petitions submitted by students.
6. Recommended awarding the M.Sc. degrees to 5 students effective October 2002, and 14 students effective July 2003 in the various majors.
7. The Committee discussed the proposed Ph.D. program in Bio-resource Sciences, a sub-committee was formed in order to rewrite the Ph.D. program.
8. Approved the proposed M.S. in Water Resource Studies. Minor changes were suggested by the committee. The Committee recommended that the Faculty of Arts and Sciences be included in the program.

**Prepared by  
Rabia Koubayssi**



## **THE LIBRARY COMMITTEE**

**2002-2003**

### **Committee members**

Drs. Y. Abou-Jawdah (Chairperson), E. Abou-Fakhr Hammad, S.K. Yau and Mr. J. Rouhana, the University Librarian.

This year there was no official meetings of the FAFS Library committee. Meetings were replaced by informal consultations.

The Chairperson of the committee raised the issue of refurbishing the entrance of the S&AL with the University Library committee and got the approval. We were promised that the refurbishment will be executed during summer 2003, but this did not occur.

**Prepared by  
Y. Abou-Jawdah**

## RESEARCH COMMITTEE

2002-2003

### MEMBERSHIP OF THE COMMITTEE

Dr. Imad Toufeili (Chairman).

Dr. Efat Abou-Fakhr Hammad (Secretary).

Dr. Moatasim Sidahmed.

Dr. Sui Kwong Yau ( Member of Committee and Faculty Representative on the University Research Board).

### ANNUAL REPORT

Research proposals submitted for funding by the University Research Board (URB) were evaluated by the Committee members and external referees. Referees' reports were solicited from researchers in FAO, Kuwait Institute for Scientific Research, Lebanese American University, Balamand University, Lebanese Agricultural Institute, and faculties of Arts & Sciences, Engineering, Health Sciences and Medicine, and School of Business at AUB. The proposals were classified, on the basis of the aforementioned internal and external evaluation, as being of high, moderate and low priority for funding. Details of proposals submitted to the URB are presented in Table 1.

**Table 1. Proposals submitted to the URB**

<b>Investigator(s)</b>	<b>Title</b>	<b>Budget</b>	<b>Priority</b>
Abou-Jawdah, Y., Abou-Fakhr Hammad, E.	Diagnosis of Mollicutes Infecting Fruit Trees in Lebanon.	US\$ 7,000 + RA	High
Toufeili, I., Obeid, O.	Determination of sensory thresholds of selected calcium salts and formulation of calcium-fortified Arabic bread. Assessment of calcium bioavailability.	US\$ 3,500 + RA	High
Hwalla , N., Torbay, N., Obeid, O.	Glycemic and insulinemic responses to hot versus cooled potato in healthy subjects with varied insulin sensitivity.	US\$ 7,500 + RA	High
Obeid, O., Hwalla , N., Torbay, N.	The effect of diet composition on hepatic glycogen synthesis and body weight of rats.	US\$ 2,500 + RA	High
Yau, S.K., Nimah, M, Bashour, I.	Agronomic studies on safflower. II. N fertilization and supplementary irrigation.	US\$ 7,000	High
Batal, M., Afifi-Soweid, R.	Determinants of Infant Feeding Practices Across Lebanon: A Multi-Site Survey.	US\$ 5,000 + RA	Moderate

<b>Investigator(s)</b>	<b>Title</b>	<b>Budget</b>	<b>Priority</b>
Saad, A., Choueiri, E.	Characteristics, host range and control of the fire blight disease of pome fruits in Lebanon.	US\$ 1,000 + RA	Moderate
Baalbaki, R.	Heat-shock proteins as biochemical markers for monitoring aging of cultivated and wild wheat.	US\$ 4, 450 + RA	Moderate
Nimah, M., Bashour, I., Abou-Fakhr Hammad, E., Toufeili, I.	Olive yield as affected by supplemental irrigation split fertilization and pest management.	US\$ 3,200 + RA	Moderate
Bashour, I., Lteif, A., Toufeili, I.	Status of Selenium in Lebanese soils, grains, vegetables and fruits.	US\$ 6,000 + RA	Moderate
Farajallah, N., Haddad, J., Nimah, M.	Temperature and Precipitation Trends in Beirut and Central Beqa'a.	US\$ 1,000 + RA	Moderate
Haidar, M.	The role of inositol 1,4,5-triphosphate in light signal transduction in dodder ( <i>Cuscuta</i> spp.) seedlings.	US\$ 4,300 + RA	Moderate
Sleiman, F.	The potential use of food by-products as feed for ruminants.	US\$ 3,100 + RA	Moderate
Darwish, R., Bashour, I.	The Economic Feasibility of Sludge Beneficial Reuse: Application of Productification Strategy in Lebanon.	US\$ 2,800 + RA	Low
Barbour, E., Talhok, R., Farran, M.	Epidemiology of <i>Mycoplasma gallisepticum</i> infection in chickens based on molecular DNA markers.	US\$ 3,300 + RA	Low

Proposals submitted for funding by the Lebanese National Council for Scientific Research (LNCSR), and other external agencies, were processed by Committee members through circular votes. Details of these proposals are presented in Table 2.

**Table 2. Proposals submitted to external funding agencies**

<b>Investigator(S)</b>	<b>Title</b>	<b>Funding Agency<sup>a</sup></b>	<b>Budget</b>
Nimah, M., Yau, S.K., Toufeili, I.	Introduction of Saffron to the Bekaa. I. Selection and Agronomic Studies.	LNCSR	12,500,000 L.L.
Abou Fakhr Hammad, E., Bouhadir, K., Saliba, N.	Determination of bioactive compounds in <i>Melia azedarach</i> extracts against economic pests on vegetable crops.	LNCSR	20,000,000 L.L.
Barbour, E., Hamadeh, S., Talhok, R., Hilan, C.	Relationship of water deprivation-stress to immunity in Awassi ewes of Lebanon.	LNCSR	\$5,500

<b>Investigator(S)</b>	<b>Title</b>	<b>Funding Agency<sup>a</sup></b>	<b>Budget</b>
Hamadeh, S., Abi Said, M.	Conservation of striped hyaena ( <i>Hyaena hyaena syriaca</i> ) in Lebanon: A threatened and reviled scavenger inn a human-dominated landscape.	LNCSR	12,100,000 L.L.
Bashour, I., Nimah, M., Kawar, N.	Measurement of heavy metals concentrations in commercial fertilizers marketed in Lebanon.	LNCSR	11,000,000 L.L.
Saad, A., Choueiri, E., Geagea, L., Timsah, M.	Disease forecasting for management of epidemic diseases on apple and potato in Lebanon.	LNCSR	24,000,000 L.L.
Darwish, R.	The economics of using agricultural wastes as feed sources: Recycling bad into good.	LNCSR	10,275,000 L.L.

- a. LNCSR: Lebanese National Council for Scientific Research.  
 USAID: United State Agency for International Development.

**Prepared by  
 Imad Toufeili**

## THE STUDENT AFFAIRS COMMITTEE

2002-2003

The members of the Students Affairs Committee for the Year 2002-2003 were: Drs. Darwish (Chairperson), Makhzoumi, Sidahmed, Toufeili, and Mr. Lahoud (Students' Representative).

The Committee met several times during the period of October 1, 2003 till September 30, 2003, and voted for many items. The Committee members discussed FAFS Awards, Prizes, and Disciplinary Actions. The following were recommended to the Dean:

### Disciplinary Actions

In its meeting on February 7, 2003, the committee approved the following actions concerning the academic misconduct of one student to receive a failing grade of 40, in her final exam (in which the violation occurred) and to receive a Dean's warning letter concerning this violation. The student was caught cheating in the final exam of NFSC 221. A regular blue piece of paper contained materials that are relevant to the course contents in her handwriting was found with the student's answer sheet.

### Penrose Award:

The Committee members voted to nominate Ms. Ziena Maalouf for the Penrose Award. The Committee agreed that Ms. Maalouf has a very solid c.v. that pretty much falls with the nomination criteria. The FAFS faculty at large has voted for Ms. Maalouf.

### Dean Thomas Thuserland Prize for Graduate Excellence:

The Committee received the nomination of 5 graduate students. The following table represents the names of the nominated students, their advisors, and who nominated them.

Student's Name	Major Advisor	Nominated By
Mohamed Al-Sharif	Elie Barbour	Elie Barbour
Hala Dakhil	Efat Abou-Fakhr Hammad	Efat Abou-Fakhr Hammad Yuosef Abou Jawdah
Hala Hourani	Y. Abou-Jawdeh	Y. Abou-Jawdeh
Amer Najm	M. Sidahmed	M. Sidahmed
Sandra F. Yanni	Musa nimah	Musa nimah

The SAC Committee (Excluding Dr. Sidahmed who nominated his student for the award) voted to recommend the five students to the Dean. The Dean presented the names' list to the faculty at large. After a through debate, the FAFS faculty members voted to short list three students only.

Based on the FAFS faculty meeting recommendation of considering only three students out of the nominated five for "Dean Thomas Sutherland Award" for the academic year 2002-2003, the SAC's committee members agreed to ask three external evaluators to assess the thesis work of the nominated students. The following criteria were followed in choice of the external evaluators: being of related field, not an FAFS faculty member and did not serve in as a committee member in any of the nominated thesis. Despite the high variability in the topics of the nominated theses, the remarks of the three evaluators were highly positive as well as the grade assigned to each work. They all indicated that the theses were well designed, significant to the body of knowledge in their fields and that the research methods and analysis used were rigours and adequate and proper.

Thus, the SAC's committee-members recommend to the Dean of FAFS, the nomination of the following students, on a three-way split basis, for Dean T. Sutherland Award. The SAC committee believes that it is not the financial reward, but the academic award that really matter. The nominees for a three-way split prize are:

1. Hala Dakhil
2. Sandra F. Yanni
3. Amer Najm

The FAFS faculty members voted for a three-way split prize for the above three students. Finally, the SAC members would like to emphasize the need for an agreed upon mechanism and procedures for the future nomination of this award.

Dean Dagher approved all SAC's recommendation

Thank you.