

ANNUAL REPORT
FACULTY OF AGRICULTURAL AND FOOD SCIENCES
2003-2004

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**ANNUAL REPORT
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2003-2004

INTRODUCTION

Student enrollment figures for 2003/2004 were as follows: 524 students during the first semester of which 71 were graduate students and 511 students during the second semester of which 68 were graduate students; 225 students during summer 2004 of which 34 were graduate students. During 2003/2004, 86 students graduated: 12 with a B.Sc. in Agriculture; 9 with a B.Sc. in Landscape Design & Eco Management; 45 with a B.Sc. in Nutrition and Dietetics, 1 with a B.Sc. in Food Science and management and 19 received their M.Sc. degrees. Two new undergraduate courses have been introduced in organic farming, one as an elective for FAFS students and one as a science elective for students from other Faculties.

Effective October 1, 2003, Drs. Jala Makhzoumi and Omar Obeid were promoted from Assistant Professor to Associate Professor in the Plant Sciences Department and the Nutrition and Food Science department, respectively. Dr. Sui-Kwong Yau was promoted from Associate Professor to Full Professor in the Plant Sciences Department. Mrs. Basma Dirayan Hamadeh, Full Time Instructor in the Nutrition and Food Sciences department, resumed her duties as of October 1, 2003 after taking one year leave without pay. Dr. M. Sidahmed completed his paid research leave at the University of Guelph, Canada. Mr. Jason Danziger, Assistant Professor of Design at Technisches Universitaet Berlin, was visiting in the Landscape program during March 2004. He conducted vertical workshops for year II and III Landscape students on Beirut City Monuments. He also gave a public lecture on City Monuments on March 22, 2004.

Research and service activities continued to increase. A total of 14 projects were funded by URB, 7 projects were funded by LNCSR and a total of 24 restricted grants and service contracts were funded by international agencies and private companies. The faculty continued to be involved in an additional 4 service contracts funded by USAID, Council for Development and Reconstruction (CDR), IFAD, and UNDP.

The year 2003/2004 was from several standpoints a very productive and rewarding year. AS a result of the new programs, student enrolment increased by 7%, research output approached 2 peer reviewed journal articles per faculty per year, and support for research from outside agencies has increased considerably. The FAFS has become a center of continuous activity for workshops and seminars in the service of public and private sectors.

SECTION A
SUMMARY REPORT OF THE DEAN

PERSONNEL

Regular Appointments

Dr. Zeina Kassaify joined FAFS effective February 2004 as Assistant Professor in Food Microbiology in the Nutrition and Food Science Dept.

Dr. Abbas Lafta Assistant Professor of Horticulture, who joined the Plant Sciences Dept. in October 2003, resigned as of September 30, 2004.

Periodic Paid Research Leave

Dr. Moatasim Sidahmed, Professor, in the Land & Water Resources Dept., completed his one year periodic paid research leave at the University of Guelph, in Ontario, Canada.

Promotion

Effective October 1, 2003, Drs. Jala Makhzoumi and Omar Obeid were promoted from Assistant Professor to Associate Professor in the Plant Sciences Department and the Nutrition and Food Sciences Department, respectively. Dr. Sui-Kwong Yau was promoted from Associate Professor to Full Professor in the Plant Sciences Department.

Mrs. Basma Dirayan Hamadeh, Full Time Instructor in the Nutrition and Food Sciences department, resumed her duties as of October 1, 2003 after taking one year leave without pay

Department Chairpersons

Dr. Shady Hamadeh; Animal Sciences (Oct. 1, 2001–September 30, 2004)

Dr. Isam Bashour; Land and Water Resources (Oct. 1, 2001–September 30, 2004)

Dr. Nahla Hwalla; Nutrition and Food Science (October 1, 2003–September 30, 2006)

Dr. Adib Saad; Plant Sciences (Oct. 1, 2001–September 30, 2004)

Coordinators of Academic Programs

Dr. Efat Abou Fakhr Hammad Coordinator of the undergraduate Agriculture Program.

Dr. Riad Baalbaki Coordinator of graduate studies.

Dr. Omar Obeid Coordinator of the undergraduate Nutrition and Dietetics Program.

Dr. Jala Makhzoumi Coordinator of the undergraduate Landscape Program.

Dr. Raja Tannous Coordinator of the undergraduate Food Science and Management Program

Dr. Ramy Zurayk Coordinator of the Ecosystem Management Program.

Academic Personnel

Table 1 shows the number of faculty by rank. All those in the professorial ranks hold doctoral degrees; 20 from different U.S. Universities, 4 from European Universities, one from

Australia and one from AUB. They represent seven different nationalities; Canada, Egypt, Germany, Lebanon, Syria, U.K. and the U.S. Numbers of research associates and research and graduate assistants are given in Table 2. It is to be noted that a large number of research assistants are on grant money reflecting the increased research activities of the faculty and the increased funding for research from outside AUB.

Table 1: NUMBER OF FACULTY BY RANK

Professor Emeritus	3
Professors	14 (1 Part time)
Associate Professors	9
Assistant Professors	4
Visiting Assistant Professors	1
Senior Lecturer	1
Lecturers	3 (Part time)
Instructors	8 (2 Full time) (6 Part time)
Assistant Instructor	1 (Part time)

Table 2: OTHER ACADEMIC PERSONNEL

Category	Funds	Number
Research Associates	University	1
	Grant	4
Senior Research Assistant	University	3
Research Assistants	University	6
Research Assistants	Grant	47 (29 Full time) (18 Part time)
Graduate Assistants	University	21

Non-Academic Personnel

There are 12 non academic employees in Beirut (Table 3) and 42 at the AREC. Four 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>
I. <u>Dean's Office</u>		
Azhari Omar, Rana	Clerk Stenographer	6
Hamzeh, Haifa	Secretary of the Dean	9
Haydar, Imad	Junior Clerk	3
Khoury, Wafa	Executive Officer	Above grade 12
Koubayssi, Rabia	Assistant for Student Services	10

Table 3: (Cont'd)

	<u>NAME</u>	<u>TITLE</u>	<u>GRADE</u>
II.	<u>Animal Science</u>		
	Atikian, Nesta	Senior Technician	9
	Harb, Mohammad	Animal Attendant	3
	Safar, Shady	Livestock & Poultry production Supervisor	12
	Shukr, Talib Ali	Senior Poultry Attendant	4
	Zreik, Mohammad	Poultry Attendant	2
III.	<u>Plant Sciences</u>		
	Abu Samra, Elias	Greenhouse Custodian	3
	El-Haddad, Nicloas	Farm Crop Production & Protection Supervisor	12
	Kayyal, Hatem	Agronomy Foreman	6
	Yazbek, Ali Abbas	Assistant Agronomy Foreman	3
IV.	<u>Nutrition and Food Sciences</u>		
	Derboghossian, Arsine	Associate Technician	6
	Ghannam, Tania	Clerk Stenographer	7
	Kadi, Ghassan	Associate Technician	6
	Rawdah, Mustapha	Laboratory Aide	1
	Tuma, Samir	Associate Technician	6
V.	<u>Land & Water Resources</u>		
	Hajj-Hasan, Ahmad	Electrician	6
	Kak, Abbas	Assistant Mechanic	4
	Mouna, Hassan	Day &/or Night Attendant (Elect.& Boiler)	6
	Sindian, Ali	Head Mechanic	9
VI.	<u>AREC Administration</u>		
	Hajj-Hassan, Hussein K.	Sales Attendant/Store Keeper	7
	Yazbeck, Bilal	Driver, Purchaser	5
	Yazbeck, Mirna	Clerk Typist	6
VII.	<u>AREC Physical Plant</u>		
	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
	Hasan-Kassem, Ibrahim	Gateman/Watchman	3
	Kak, Mohamad	Gateman/Watchman	3
	Masri, Ali	Gateman/Watchman	3
	Mussawi, Kuzhayyah	Gateman/Watchman	3

Table 3: (Cont'd)

<u>NAME</u>	<u>TITLE</u>	<u>GRADE</u>
Rumeh, Ali	Janitor	1
Sayyed-Ahmad, Abdullah	Gateman/Watchman	3
Yaghi, Hazim	Physical Plant supervisor	12
Zein, Bassam	Mason	5
VIII. <u>AREC Production</u>		
Abou-Eid, Abdallah	Field Worker	1
Burro, Abdul-rahman	Laborer	1
Hajj Hassan, Ahmed K.	Animal Attendant	3
Hajj Hasan, Ali	Field Worker	1
Mousawi, Abbas	Machine Operator	3
Takash, Nayef	Machine Operator	2
IX. <u>AREC Cafeteria</u>		
Hamiyeh, Walid	Assistant Cook	5
Kayyal, Ali	Food Service Worker	1
Shamun, Hanna	Cook	7
Shukr, Khalil	Food Service worker	1
X. <u>AREC Library</u>		
Sleiman, Samar	Librarian	6
XI. <u>AREC AUH</u>		
Sayyed-Ahmad, Mariam	Staff Nurse	9

ACADEMIC AND STUDENT AFFAIRS

Student enrollment figures for 2003/2004 were as follows: 524 students during the first semester of which 71 were graduate students and 511 students during the second semester of which 68 were graduate students; 225 students during summer 2004 of which 34 were graduate students.

During 2003/2004, 86 students graduated: 12 with a B.Sc. in Agriculture; 9 with a B.Sc. in Landscape Design & Eco Management; 45 with a B.Sc. in Nutrition and Dietetics, 1 with a B.Sc. in Food Science and management and 19 received their M.Sc. degrees.

Table 4: STUDENT ENROLLMENT BY CLASS 2003-2004**UNDERGRADUATE ENROLLMENT**

	Fall		Spring		Summer
1. Agriculture, Ingenieur Agricole					
AGRI I	131		98		32
AGRI II	28		44		36
AGRI III	19		15		14
AGRI IV	8		14		4
AGRI Special	5		4		1
Total	191		175		87
2. Landscape Design and Eco-Management					
LDEM I	26		20		10
LDEM II	11		11		5
LDEM III	19		17		2
LDEM IV	6		11		1
AGRI Special	1		0		0
Total	63		59		18
3. Nutrition & Dietetics					
NUTR I	42		25		3
NUTR II	50		51		22
NUTR III	44		54		18
NUTR Special	7		9		7
Total	143		139		50
4. Food Science & Management					
FSMT I	47		54		14
FSMT II	8		14		14
FSMT III	1		2		8
Total	56		70		36
Total Undergraduate	453		443		191

GRADUATE ENROLLMENT BY MAJOR

	Fall		Spring		Summer
Agricultural Economics	4		6		2
Animal Science	2		2		2
Ecosystem Management	12		10		6
Food Technology	10		10		5
Irrigation	3		2		2
Nutrition	29		26		11
Plant Protection	6		7		3
Plant Science	2		2		1
Poultry Science	3		3		2
Soil & Mechanization	0		0		0
Total Graduate	71		68		34
Total Enrolment	524		511		225

RESEARCH GRANTS AND SERVICE CONTRACTS AND PUBLICATIONS

During 2003/2004, the University Research Board (URB) provided funds for 14 faculty members with a total budget of US\$107,400; while the Lebanese National Council for Scientific Research (LNCSR) provided funds for 7 faculty members with a total budget of L.L. 62,100,000.-. Also, during 2003/2004, we had on record a total of 28 restricted grants and service contracts with a total budget of \$7,512,240. Seven of these were under the REP Office and the others administered through the Grants and Contracts Office.

A new contract between IBSAR/AUB and UNDP for the “Development of the National Biosafety Framework for Lebanon and Top-up Biodiversity Enabling Activity Project” to be conducted by the IBSAR project team and directed by Dr. Salma Talhouk, was signed effective February 1, 2004 until July 31, 2005. Total budget for this project amounts to \$99,950.

A new IBSAR research collaborative agreement with Eng. Wasseem Ezzedine for the “Holistic Landscape Approach to Biodiversity Use in Lebanon: Partenering with Landowners” was signed effective April 1, 2004. The project period is for three years and the total budget for year I is \$73,204. Budgets for year II and III will be provided upon completion of the first year as specified in the agreement.

A new memorandum of understanding to support research entitled: “Evaluation of Graded Levels of Organic Manure on Yield and Quality of Vegetable Crops Grown in the Bekaa Valley” was signed between FAFS and Greenline effective April 2004 to be directed by Dr. Farran. Total budget for this project amounts to \$8,000.

A new agreement between SEAL and FAFS for the support of “Asset Building of Small Lebanese Farmers” to be directed by Dr. Ramy Zurayk was signed effective April 2004. Total budget for this project amounts to \$9,000.

Mercy Corps approved to increase the budget of the Forage Sustainable Development project from \$1,300,000 to \$2,100,000 to incorporate the new amendment for South Lebanon. The project period will remain the same from November 7, 2002 until November 6, 2005.

The Report Commodities for USAID/ASHA grant #1336-836 has been approved by ASHA. Total budget for FAFS is \$162,268.

A new service contract was signed with UNIFERT (A Lebanese base Agr. Co.) to conduct “Vegetable Seeds Trial at AREC” for the period March 1, 2004 up to November 15, 2004 with a total budget of \$4,400.

Visiting URB Scholars

Dr. Stephen DeGloria, Professor and Chair, department of Crop and Soil Sciences, Cornell University, was invited by the Land and Water Resources Dept. to present two lectures on May 7 and May 10, 2004. His two lectures were on “Faculty Governance and Evaluation” and “Agronomic and Environmental Resources Inventory”. He also lectured to students in two courses that were offered in the Spring semester. Dr. Keith Frayn, Professor at the University of Oxford, was invited by the Nutrition and Food Science Department. He visited FAFS during the period July 18-23, 2004 and he met with faculty members and students and presented lectures on recent issues of Nutrition and Health.

FACULTY PROFESSIONAL ACTIVITIES

FAFS Faculty members continued attending international and regional scientific meetings during the academic year 2003/2004. A total of 16 faculty members presented papers and/or chaired sessions in those meetings. The Dean was also an invited speaker at the World Poultry Congress in Istanbul in June 2004 and was also honored by the American Poultry Science Association at their annual meetings in St. Louis, MO.

Research productivity continued to increase with a total of 49 papers published in scientific peer reviewed journals in 2003/2004 and numerous others in proceedings, books and chapters in books.

WORKSHOPS

A one day symposium on “Agricultural Policies in the Arab World” was organized by the Faculty and the FAFS Alumni Chapter and was held at FAFS on June 18, 2004. Several key speakers from ESCWA, FAO, World Trade Organization and Union of Arab Chambers of Commerce, Industry and Agriculture presented papers at the symposium and shared in the discussions that followed. Proceedings ensuing from the Symposium are being prepared for publication.

Dr. M. Batal organized a one day workshop on “Nutrition: Facts and Realities” which was attended by Directors and Public Health Educators in 25 centers affiliated with the Ministry of Social Affairs, May 13, 2004.

Dr. S. Talhouk organized two workshops one on “Prospects for the identification and conservation of Biodiversity Rich Areas in Lebanon”, February 26, 2004, and the second workshop on “Introduction of the Cartagena Protocol on Biosafety Development of the National Biosafety Framework for Lebanon Project”, April 23, 2004.

ALUMNI

Table 5 shows the number of graduates from FAFS since 1956 which includes the TVT program that was started in 1954 funded by USAID and discontinued in 1971. FAFS has graduated a total of 3911 students from its regular instructional programs: 2265 with the B.S. degree in the 4 undergraduate majors (Agriculture, Landscape Design & Eco Management, Nutrition and Dietetics, and Food Sciences and Management) and 1221 students with the M.S. degree in 11 different majors. 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.

FAFS GRADUATES BY COUNTRIES 1956-2004*

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	44	0	45
Bolivian	3	3	0	6
Brazilian	4	2	0	6

Country	B.S.	M.S.	T.V.T.**	Total
British	8	3	0	11
Canadian	3	0	0	3
Chinese	0	1	0	1
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	5	2	0	7
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	45	19	124
Iraqi	12	12	0	24
Jordanian	104	102	20	226
Kenyan	1	0	0	1
Kuwaiti	5	1	0	6
Lebanese	1765	572	4	2341
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	44	59
Nigerian	3	0	0	3
Omani	1	0	0	1
Pakistani***	15	229	89	333
Palestinian	45	26	0	71
Qatari	1	0	0	1
Romanian	1	0	0	1
Saudi Arabia	8	0	4	12
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	58	35	0	93
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
Total	2265	1221	425	3911

* As of June 2004.

** 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

2003-2004

Shady K. Hamadeh, Chairperson

SUMMARY OF THE PROGRAM

The Department members managed to offer 13 undergraduate and 6 graduate courses with seminars and tutorials in spite of the involvement of two members in administrative activities (Dean and Director of AREC), and the main laboratory rehabilitation that was carried out during the spring 2004.

In addition, Animal Science Faculty members were actively involved in research and services. Research projects funded by university, national and international sources were carried out with an output of 13 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 Daghir, 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.

Maroun Fram, Lina Zgheib, Amin Ghanem, Hussam Chaib and Hussein Halawi: Graduate Assistants.

Non-Academic

Nesta Saghirian; Senior Technician.

Taleb Shukr; Senior Poultry Attendant.

Mohammad Harb; Animal Attendant

Mohammad Zreik; Poultry Attendant

Shadi Safar: Livestock and Poultry Production Supervisor

TEACHING ACTIVITIES

	<u>No. of students</u>	<u>Core courses</u>	<u>Electives</u>	<u>Others</u>
<u>Fall 03-04</u>				
Undergraduate	69	3 (including seminar)	2	4 tutorials
Graduate	16	3 (including seminar)	-	3 tutorials
<u>Spring 04</u>				
Undergraduate	276	3	2	4 tutorials
Graduate	13	3 (including seminar)	-	2 tutorials
<u>Summer 03</u>				
Undergraduate	48	2	1	
Graduate		-	-	-

No. of Graduate students enrolled and graduated

	<u>No. of students</u>
<u>Fall</u>	
Enrolled	2 ANSC, 3 poultry
Graduated	-
<u>Spring</u>	
Enrolled	2 ANSC; 3 Poultry
Graduated	1 Poultry
<u>Summer 03</u>	
Enrolled	2 ANSC; 2 Poultry
Graduated	1 Poultry (expected)

SERVICES

Elie Barbour

- Advisory committee
- Serving 40 range reared farms in Jezzine area – beneficiaries are land mine victims, funded by World Rehabilitation Fund project.
- Investigation of Bird Flu on 24 farms of Lebanon.
- Serving commercial layers farms in Bekaa Valley area
- New TV interview on Food additives and zoonoses
- FAFS admission committee (secretary)
- University admission committee
- Member of the Scientific Advisory Board of the Office International Des Epizooties (Scientific and Technical Review Journal of the World Organization For Animal Health).

Mohamed Farran

- AREC Director.
- Accreditation Committee
- Task force on Agriculture and Environment (LNCSR)
- Advisor (non-remunerated) to the Minister of Agriculture, Republic of Lebanon
- National Project Director - Animal production Technical Cooperation Project,

TCP/LEB/2905, FAO, August 2003 to date.

- Member of Board of Directors – Lebanese National Council for Scientific Research.

Shadi Hamadeh

- Advisory Committee
- Administrative Committee
- Graduate Studies Committee
- Chairperson
- 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
- REP committee

Fawwak Sleiman

- University Senate
- University Council
- University Disciplinary Committee
- FAFS Graduate Committee
- FAFS Ad-hoc Equipment Committee
- Conducted workshops and training sessions to farmers on dairy nutrition, production and forage production (funded by US-AID and FAO)

RESEARCH

Elie Barbour

Projects:

- IBSAR project; Antimicrobial activities in indigenous medicinal herbs of Lebanon.
- LNCSR project; Relationship of water deprivation-stress to immunity in Awassi ewes of Lebanon.
- Working on a Ohio-Toledo-AUB funded project.
- Working on Avian Influenza screening and testing 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" to American Soybean Association.
- A research proposal to LNCSR that includes LARI and Lebanese University according to the new guidelines.
- Evaluation of Graded Levels of Organic Manure on yield and Quality of Vegetable Crops Grown in the Bekaa Valley (new).
- Utilization of Locally Produced Barley and Oil Seed Meals and Feed Additives in Poultry Diets (ongoing).

- Free-range table bird production in Lebanon (Supported by Green line Association).

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.
- Conservation of Stripped Hyaena in Lebanon: a threatened and reviled scavenger in human-dominated landscape.

Fawak Sleiman

Projects:

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

PUBLICATIONS

Journals

Abu Zanat, M., A. Amri, S.K. Hamadeh, S. Al-Laham, and B. Mawlawi. 2003. Promoting agrobiodiversity conservation in rangelands of dry areas. Seventh International Conference on development of dry lands: Sustainable Development and management of dry lands in the 21st century. Tehran, Iran. 14-17 September 2003.

Barbour E. K., Sagherian, V., Banat, G., Jaber, L., Sleiman, F.T., and Hamadeh, S.K. Comparison of immunosuppression in dry and lactating Awassi ewes due to water deprivation-stress. Veterinary Research Communications (UK), In press

Barbour, E.K., Abdel Nour, A., Talhouk, R., and Farran, M. Thermostabilizers in Poultry live vaccines. World Poultry journal, In press.

Barbour, E.K., Al Sharif, M., Sagherian, V.K., Habre, A.N., Talhouk, R.S., and Talhouk, S. Screening of selected indigenous plants of Lebanon for antimicrobial activity. Journal of Ethnopharmacology (Netherland), In Press.

Barbour, E.K., Farran, M., Elias, D., Banat, G., and Rabih, T. A new animal welfare-molting approach maintaining immunity in commercial layers. World Poultry journal (Netherland), In press.

Barbour, E.K., Sagherian, V., Talhouk, R., Talhouk, S. Cell-immunomodulation against Salmonella Enteritidis in herbal extracts-treated broilers. Journal of Applied Research in Veterinary Medicine, (USA), In press.

Daghir, N.J. Higher Agricultural Education in the Middle East: The AUB Model. Proceedings of a Symposium on Higher Agricultural Education: Future Requirements, King Faisal Univ., Saudi Arabia, April 12-13, 2004, pp. 115-131.

Daghir, N.J., 2004. Nutritioanl Strategies to reduce heat stress in layig hens. XXII World's Poultry Congress (in press).

- Darwish A.H., M.T. Farran, G.W. Barbour, N.Usayran, and V.M. Ashkarian. 2004. Effect of Feeding Graded Levels of Three Barley Varieties on Performance and Carcass Yield of Broilers. XXII Worlds Poultry Congress (In Press).
- Farran M.T., D.E. Haddad, E.K. Barbour, and V.M. Ashkarian. 2004. Ad libitum Feeding of Ervil (Vicia ervilia) Diet as an Alternative to Fasting Method for Induction of Molt in Laying Hens. XXII Worlds Poultry Congress (In Press)
- Farran M.T., N. Usayran, R.Y. Eid, E.K. Barbour, A.H. Darwish, and V.M. Ashkarian. 2004. Effect of Prebiotic, Avilamycin, and Flavomycin on Broiler Performace and Cecal Flora. XXII Worlds Poultry Congress (In Press).
- Hamadeh S.K., Haidar M., Zurayk R., Obeid M., and C. Dick. 2004.Goats, cherry trees and videotapes: PDC for natural resource management in semi-arid Lebanon. FAO-IDRC workshop on communication and natural resource management, Rome, Sept. 1-3.
- Jaber, L.S., A. Habre, N. Rawda, M. Abi Said, E.K. Barbour and S. Hamadeh.2004. The Effect of Water Restriction on some Physiological Indicators in Awassi Sheep. Small Ruminants research, 54: 115-120.
- Tami, F., M.Darwish, M. Abi Said and S.K. Hamadeh. 2004. Sustainable Improvement of Small Ruminant Production in the Semi-Arid Areas of Lebanon. Journal for Sustainable Agriculture (in print)
- Zurayk, R., Haidar, M. and Hamadeh, S. 2003. Carting the Oxen. Putting research into development. Conference on Health Approach to Ecosystem. Montreal, Canada. May 2003.

Extension booklets

Sleiman, F.T.Principles of raising dairy animals. In preparation.
Sleiman F.T. Dairy nutrition. In preparation.

Abstracts:

- Sleiman, F.T., Rebeiz, N.J., Uwayjan, M.G., Farran, M.T., Zurayk, R.A., Barbour, E.K. and S.K.Hamadeh. 2004. Use of liquid whey, urea and molasses as additives to ensiled wheat Straw. J. Dairy Sc. 87 (supplement 1).
- Avedenian, L., Khauli, R., Sleiman, F.T. and Abdelnoor, A.M. 2004. Preparation of chicken anti-human lymphocyte globulin (IgY). Clinical Investigative Medicine (supplement).

Masters' Theses

- Habre, Adele. The effect of water restriction on some physiological indicators in Awassi sheep (2003)
- Raouda Nadim. Effect of water restriction on some physiological indicators in dry and lactating Awassi ewes (2003)
- Chaib, Houssam. PCR use in epidemiological study of avian mycoplasmosis and control of Gomboro by herbal extracts (2004).

MEETINGS, CONFERENCES AND WORKSHOPS ATTENDED

Elie Barbour

- American Veterinary Medical Association congress in Denver, July 2003.
- Poultry Production in Warm climates, workshop offered by CIHEAM, Zaragoza, Spain, in May, 2003.
- Attended and presented my research on Mycoplasma in the 2004 American Veterinary Medical Association Conference in Philadelphia, Pennsylvania, USA, between July 22-30, 2004.

Nuhad Dagher

- Invited speaker at a Conference on Higher Agricultural Education: Future Requirements at King Faisal University in Saudi Arabia from April 12-13, 2004.
- Invited speaker at the XXII World's Poultry Congress (Istanbul) from June 7 to 13, 2004.
- Attended the American Poultry Science Association and joint annual meeting of the ADSA and ASA in St. Louis, Missouri, USA, from July 25-29, 2004.

Mohamed Farran

- Attended the XXII Worlds Poultry Congress 2004 (Istanbul) from June 7 to 13, 2004.
- Invited to participate in a workshop organized by the FAO on Poultry Industry in Tunis from September 19 to 21, 2004

Shadi Hamadeh

- Attended a regional workshop organized by IFAD-InWENT in AMMAN Jordan, December 2003.
- Visited livestock farms and center specialized in the production and processing of organic and traditional animal products. France, June 1-4, 2004.
- Attended workshop on participatory communication and natural resource management and UN round table on Communication for Development, Italy, Sept. 1-9, 2004.

Fawak Sleiman

Attended and presented a paper at the joint Annual meeting of the ADSA, ASA and PSA, in St. Louis, Missouri, USA, from July 25-29, 2004.

FUTURE DEVELOPMENT

In case the new program leading to a B.S. in veterinary sciences is approved by the university in 2005, the department will need to recruit an additional faculty member by the year 2007-2008. In addition, the department has plans to develop new service courses building on the successes of ANSC 279 and ANSC 280.

Furthermore, the department has plans to boost research and training on organic animal agriculture in cooperation with the Ecosystem management program.

DEPARTMENT OF LAND AND WATER RESOURCES

2003-2004

Isam I. Bashour, Chairperson

SUMMARY OF PROGRAM

The members of the faculty at the LWRS belong to different academic backgrounds: 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-three courses were offered, fourteen undergraduate and nine graduate. One student earned a Master of Science degree in Environmental Sciences. Published research included twenty five articles in refereed journals and proceedings, and five chapters in books. Also many technical reports were written by the LWRS faculty members and several seminars to farmers were offered at AREC/Bekaa, Akkar, South and North Lebanon, and other regions. One professor was on sabbatical leave for a period of twelve months and two associate professors were promoted to the rank of professor starting October 1, 2004.

PERSONNEL

Full Time Faculty

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

Darwish, Ragy, Ph.D., Associate Professor of Agricultural 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

Yanni, Sandra, M.Sc.

Research Assistants

Semester	Part time (Grant)	Full time (Grant)
Fall Oct 1, 2003- Jan. 31, 2004	Amer Najm Raghd El Hassan	Dany Lecha El Khoury (research associate) Mona Haidar (research associate) Rola Faress Hind Farah Samer Fatfat Ali Houjeri Tony Serhal Ziad Moussa Nell Abou Ghazali Youssef El masri Thana Abou Ghida Nivine Hajj Hassan
Spring Feb. 13 -June 14, 2004	Amer Najm Naji Abou Chacra Raghd El Hassan	Dany Lecha El Khoury (research associate) Mona Haidar (research associate) Rola Faress Hind Farah Samer Fatfat Ali Houjeri Tony Serhal Ziad Moussa Nell Abou Ghazali Youssef El masri Thana Abou Ghida Nivine Hajj Hassan
Summer June 2004 – Sep. 2004	Naji Abou Chacra Raghd El Hassan Carla Abddo Tony Serhal	Dany Lecha El Khoury (research associate) Mona Haidar (research associate) Rola Faress Hind Farah Samer Fatfat Ali Houjeri Ziad Moussa Nell Abou Ghazali Youssef El masri Nivine Hajj Hassan Thana Abou Ghida

Graduate Assistants

Semester	Students
Fall Oct 1, 2003- Jan. 31, 2004	Rania Abou Mosleh Carole Abou Rached Rana Badawi Joy El-Jadam Nada Omeira Mario Saadeh Nadine Modad Joanna El Khoury Maya Al Assi

<i>Summer</i> June 2004 – September 2004	Soraya Moukarzel Nadine Moadad Joanna El Khoury Wassim Minkara
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TEACHING ACTIVITIES

Undergraduate Courses

	<i>Courses</i>	<i>Others</i>
Fall 03-04	LWRS 241 LWRS 212 LWRS 290 LWRS 215 ENSC 202 LDMG 245	3 tutorials
Spring 2004	LWRS 227 LWRS 228 LWRS 229 LWRS 265 LWRS 212	AGR 201 Tutorial
Summer 2004	LWRS 225 AGRL 296	2 tutorials

Graduate Courses

	<i>Courses</i>	<i>Others</i>
Fall 03-04	LWRS 317 LWRS 376 LWRS 312 LWRS 328 ENSC 690	1 tutorial
Spring 2004	LWRS 326 LWRS 320 ENSC 631 (50%) ENSC 630	1 tutorial

No. of Graduate students enrolled and graduated

Semester	Agricultural Economics	Irrigation	Hydrology	Ecosystem Management
<i>Fall 03-04</i>				
Enrolled	6	5	0	10
Graduated		0	0	1
<i>Spring 2004</i>				
Enrolled	6	3	2	11
Graduated		0	0	0
<i>Summer 2004</i>				
Enrolled			2	0
Graduated				0

Graduate Thesis

Student	Advisor	Thesis Title
Rania Abou Mosleh	N. Farajalla	Characterization of Sources of River Pollution Through Riverbed Sediment Analysis
Joy Al-Jadam	N. Farajalla	A GIS-based Decision Support System for Siting Wastewater Treatment Facilities in Lebanon
Ghassan Haddad	N. Farajalla M.N. Nimah (co-advisor)	Precipitation Trends and Modeling: Case Study Beirut Region
Alicia Mansour	R. Zurayk	Effect of Extracted Hummus on the Germination and Seedling Growth of Corn
Rana Badawi	M. N. Nimah	Technical and Economical Assessment for Optimal Irrigation Systems of Soccer Fields in Lebanon
Carole Abou Rached	M. N. Nimah	Regular Deficit Irrigation and Split Nitrogen Fertilization Impact on Wheat and Barley Yields
Soraya Moukarzel	M.R. Darwish M.N. Nimah (co-advisor)	Not determined yet
Joumana Karamah	M.R. Darwish	Improving Agricultural Secondary School Education
Vera Khair	M.R. Darwish	Sludge Reuse
Rania Khalil	M.R. Darwish	Biowaste Reuse in Agriculture
Yousef Doghan	M.R. Darwish	Not determine yet
Mario Saadeh	M.R. Darwish	Not determine yet
Rayan Haidar	M.R. Darwish	Not determine yet

PUBLICATIONS

Refereed Journals & Proceedings

Al-Hassan R., **I. Bashour** and N. Kawar (2004). Degradation of α and β endosulfan in soil as influenced by different organic matter sources. *Journal of Environmental Science and Health, Part B-Vol. B39, No. 5.*

Baalbaki, R. and **R. Zurayk**. 2003. Salinity tolerant plants-resources and research in Lebanon. *Proceedings, Biotechnology and its Role in the Jordanian Economy. The Higher Council for Science and Technology General Secretariat.*

Baalbaki, R., N. Hajj-Hassan, and **R. Zurayk**. (2004). Variation in Quantitative Attributes of Wild *Aegilops* Species Under Water Stress. Accepted for publication in *Theoretical and Applied Genetics*.

Barbour, E. Codsi, R. and **Zurayk, R.** (2004). Reproducibility of Bacterial and Copepod Density Assessment in Bathing and Artisanal Fishing Water of the Eastern Mediterranean. *International Journal of Environmental Health Research. Vol.14 (4) 315-*

- Bashour, I.** and A. Al-Jaloud (2004). Fractions of DTPA extractions of Fe, Zn, Mn, and Cu in calcareous desert soils. Submitted for publication in Journal of Arid Environments.
- Bashour, I. and M.N. Nimah.** (2004). Fertigation potentials in the Near East region. Submitted for Regional IPI Workshop on: Potassium and Fertigation Development in West Asia and North Africa Region, Rabat, Morocco. November 24-28, 2004.
- Bashour, I., A. Lteif, M. Nimah and R. Darwish.** (2003). Selenium content in soils and plants and its effect on animal and human nutrition (invited paper). Proceedings of Regional expert consultation on plant, animal and human nutrition. FAO regional meeting, September 7-13, 2003 in Damascus, Syria (CD publication).
- Bashour, I., S. Dagher, G. Chammas, A. Lteif and N. Kawar** (2004). DDT residues in Lebanese soils. Journal of Environmental Science and Health Vol. B 39, N. 2, p. 273-283.
- Habib R.R., Nuwayhid I.A., El-Fadel M., **Zurayk R.**, Kabakian V. Water Quality in the Coastal Zone of Bebnine: A Case Study on Successful Community Participation. Coastal Zone Asia Pacific Conference, 5 – 9 September 2004, Brisbane, Australia.
- Kabengi N.J., **R.A. Zurayk**, R.Z. Baalbaki, and J. Ryan. (2003). Phosphorous Dynamics and Characterization under a Long-term Rotation Trial. Communications in Soil Science and Plant Analysis. Vol. 34, No. 3 and 4, pp. 375-392.
- Nimah, M. N.** (2003). Drought Planning and Water Conflicts: A Case Study of the Near East Region. Irrigation and Water Resources. FAO_Regional Office for the Near East. Cairo Egypt.
- Nimah, M.N., I. Bashour, K. Corbani, and S. Yanni.** (2004). Water and Land Productivity Under Conventional Versus Vertical Cultivation. International Society for Horticulture. Irrigation for vegetables crops under field conditions. Acta Horticultarea. Vol. 291.
- Semerjian, L., El-Fadel, M., **Zurayk, R.** and I. Nuwayhid. (2004). An Interdisciplinary Approach to Environmental Education. Journal of Professional Issues in Engineering, Education and Practice Vol. 130, (3), 173-181.
- Tami, F., **R. Darwish**, M. Abi-Said and S. Hamadeh. (2004). Sustainable Improvement of Small Ruminant Production in the Semi-Arid Areas of Lebanon, Journal of Sustainable Agriculture (in Print).
- Yanni, S., **M.N. Nimah and I. Bashour.** (2004). Gravel Vertical Mulching for Improving Water Use Efficiency of Drip Irrigated Orchards. International Society for Horticulture. Irrigation for vegetables crops under field conditions. Acta Horticultarea. Vol. 291.
- Zurayk R.A.** and M. Haidar. (2003). The Dryland Predicament: Natural, Capital, Global Forces. Development Outreach. pp. 35-39.
- Zurayk, R.** and L. Abdel Samad. 2004. Environmental problems of urban and peri-urban agriculture in Lebanon. Unesco/Scope workshop on peri-urban environmental change. Beirut, 18-19 March 2004.
- Zurayk, R., Abdel Samad L, and Talhouk S.** (2004). Environmental Analysis of Urban and Peri-Urban Coastal Agriculture in Lebanon. In: L'interface Entre Agriculture et Urbanisation En Mediterranee Sud et Est. Nasr, J. and Padilla, M. (eds.). Institut

Francais du Moyen Orient, Editions Delta. In print.

Zurayk, R., B. Kanj, S. Talhouk and R. Baalbaki. (2004). Salinity and phosphorus nutrition effects on vegetative growth of differentially drought tolerant wheat. *Crop Science* (Accepted with corrections).

Zurayk, R.A. (2003). Participatory GIS-based Natural Resource Management: Experiences from a Country of the South. *Arid Lands Newsletter*. No. 53, May/June 2003. <http://ag.arizona.edu/OALS/ALN/aln53/zurayk.html>

Abstracts

Bashour, I, R. Al-Hassan and N. Kawar (2004). Influence of organic matter amendments on the persistence of endosulfan in soils. 228th National Meeting, American Chemical Society, Division of Agrochemicals, August 22 – 26, 2004, Philadelphia, PA, USA.

Farajalla, N. (2004). Abstract accepted for the American Society of Agricultural Engineers Specialty Meeting on Self-Sustaining Solutions for Streams, Wetlands, and Watershed, entitled “Characterization Of Surface Water Pollutants Through Riverbed Sediment Analysis: Assessment Of Lebanese Coastal Rivers”.

Farajalla, N. (2004). Abstract and Paper accepted for the American Water Resources Association Annual Meeting entitled “Institutional and Governmental Barriers to Implementing BMPs in Lebanon”.

Farajalla, N. (2004). Submitted abstract to the American Water Resources Association Annual Meeting entitled “El Nino and the Eastern Mediterranean”.

Farajalla, N. (2004). Submitted abstract to the Environment and Groundwater Institute’s Annual Symposium entitled “Impact of Agrochemicals on Water Resources in Lebanon and Barriers to Implementing BMPs”.

Sleiman, F.T., N.J. Rebeiz, M.G. Uwayjan, M.T. Farran, **R.A. Zurayk**, E.K. Barbour and S.K. Hamadeh. (2004). Use of Liquid Whey, Urea and Molasses as Additives to Ensiled Wheatstraw. *Journal of Animal Science*. Vol. 82: supplement (1): 54.

Books & Chapters in Books

Bashour, I. (2004). Problems of Desert Reclamation and Management of Dry lands: Fertility Aspects. Accepted as a Chapter to the *Encyclopedia of Life Support Systems*, UNESCO.

Bashour, I., G. Hannoush and N. Kawar (2003). Trace metal content of commercial fertilizers marketed in Lebanon. In Hall, W. and W. Robarge (Editors). *Environmental Impact of Fertilizer on soil and Water* (Chapter 7, p. 90-99). Oxford University Press. American Chemical Society publication.

Haddad, J. and **M.N. Nimah** (2003). Water quality monitoring of a watershed. In *River Basin Management*. Edited by C.A. Brebbia. Published by Wessex Institute Of Technology, UK.

Nimah, M.N., A. Bsaibes, F. Alkal, **M.R. Darwish**, and **I. Bashour** (2003). Optimizing cropping pattern to maximize water productivity. In *River Basin Management*. Edited by C.A. Brebbia. Published by Wessex Institute Of Technology, UK.

Zurayk R, L. Abdul Samad and S. Talhouk. (2004). Environmental Analysis of Urban and

Peri-urban Coastal Agriculture in Lebanon. In: *L'interface Entre Agriculture et Urbanisation En Mediterranee Sud et Est*. Nasr J. and Padilla M. (eds). Institute Francais du Moyen Orient, Editions Delta. In Print.

Reports, and Extension Papers

Bashour, I. Guide for Fertilization of Fruit Trees and Vegetables. American University of Beirut and Lebanese Ministry of Agriculture. (In Arabic).

Bashour, I. Guide for Plant Deficiency Symptoms (poster). American University of Beirut and Lebanese Ministry of Agriculture. (In Arabic).

Darwish, R. Investigating Financial Appraisals for Developmental Projects (IFAD Pro), a training manual produced by the member of the Lebanese National Training Unit (LNTU), this manual will be used for IFAD-InWent workshops held in or outside Lebanon.

Farajalla, N. Report to Ministry of Environment entitled: "Mitigating the Impacts of Agrochemicals on Water Resources in Lebanon".

Moussa, Z. and **R. Zurayk**. 2003. Fertilization Techniques in Organic Farming. American University of Beirut, USDA and Mercy Corps. (Arabic). 14 pp.

Moussa, Z. and **R. Zurayk**. 2003. Forage Crops. American University of Beirut, USDA and Mercy Corps. (Arabic). 14 pp.

Moussa, Z. and **R. Zurayk**. 2003. Organic Farming. American University of Beirut, USDA and Mercy Corps. (Arabic). 14 pp.

Moussa, Z. and **R. Zurayk**. 2003. Rural Tourism. American University of Beirut, USDA and Mercy Corps. (Arabic). 14 pp.

Moussa, Z. and **R. Zurayk**. 2003. Sustainable Agriculture. American University of Beirut, USDA and Mercy Corps. (Arabic). 14 pp.

Moussa, Z. and **R. Zurayk**. 2003. Innovations in Agricultural Marketing. American University of Beirut, USDA and Mercy Corps. (Arabic). 14 pp.

Nimah, M.N. Irrigation Principles and Irrigation System Design. Workshop for Green Plan, Ministry of Agriculture, Lebanon. (2003). pp. 130.

Nimah, M.N. Irrigation Scheduling and Irrigation Systems Design and Evaluation. Provisions of Technology Transfer and Extension for Major Irrigation Schemes. American University of Beirut. December 2003. pp. 185.

Sleiman F., Y. Abou Jawdeh, **I. Bashour** and **M. Nimah**. Production of Forage Corn. American University of Beirut and Ministry of Agriculture – Lebanon. (In Arabic).

Zurayk, R. Community of Practice on sustainable Livelihoods in Drylands (COP) progress report covering Sep.-Dec., 2003.

Zurayk, R. Community of Practice on sustainable Livelihoods in Drylands (COP). Final Report.

Zurayk, R. Enhancing Livelihoods of Poor Farmers in South Lebanon: Community

Supported Agriculture. First progress report covering period May 2004 – July 2004.

Zurayk, R. Opportunities for Socio-economic Growth and Environmental Protection. Final report.

Zurayk, R. Provisions of Technology Transfer and Extension for Major Irrigation Schemes. Progress report covering the period Apr. 2003- Dec. 2003.

Zurayk, R. Provisions of Technology Transfer and Extension for Major Irrigation Schemes. 1st, 2nd, 3rd and 4th MoA staff training reports.

Zurayk, R. Qaraaoun integrated rural development project. Final report.

Zurayk, R. Yammouneh extension and technology transfer project. 2 progress reports covering the periods: Sep.2003 – Nov. 2003 and Dec. 2003 – Feb. 2004.

RESEARCH PROJECTS

Bashour I.

- URB grant “Status of Selenium in Lebanese soils, grains, vegetables and fruits”.
- Field experiments “Effects of N fertilization and supplemental irrigation on Wheat and Barley yields in Bekka”
- Evaluation of different forage crops in Bekka.

Darwish M.R.

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

Farajalla N.

- URB grant “Temperature and Precipitation Trends in Beirut and the Central Beka’a”
- Impact of El-Nino/La-Nina of Precipitation Patterns in Lebanon
- Characterization of River Pollutants through Riverbed Sediments
- Development of a Decision Support System for Site Selection of Wastewater Plants
- Effect of Temperature and Precipitation on Yield of Rain-fed Legumes in Lebanon

Nimah M.N.

- “Olive Production under Supplemental Irrigation and Split Fertigation” – URB Grant
- “Saffron Production under Semi-arid Conditions” – Lebanese National Council grant
- “Regular Deficit Irrigation” with Drs. Bashour and Yau
- “Economics of Irrigation Systems on Football Fields” with Dr. Darwish

Zurayk R.

- Community of Practice for sustainable livelihoods in Drylands (Manager). This regional project aims to provide practice for people involved in projects that support sustainable livelihoods of Drylands people. The countries involved are: Morocco, Tunisia, Lebanon, Palestine, Jordan, Syria, Yemen, and Iran. Value: \$20,000.
- Enhancing Livelihoods of Poor Farmers in South Lebanon: Community Supported Agriculture Project. (Project Manager). Mercy Corps/USAID. Value: \$218,020. Duration: May 1, 2004 – October 31, 2005.
- Yammouneh Extension and Technology Transfer Project. Technical backstopping and implementation (Coordinator). In collaboration with the Directorate of Extension, Ministry of Agriculture. Granting Agency: World Bank. Value: \$500,000. Duration: May 1998-May 2004.
- Major Irrigation Schemes Technology Transfer and Extension Project. (Project Manager).

IFAD/World Bank/CDR. Aims to provide extension and training in 4 locations in Lebanon. Value: \$773,000. Duration: 2002-2004.

SERVICES

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

Drs. Bashour, Darwish and Nimah participated in 6 two-day workshops conducted at AREC (**Forage improvement production program in Bekaa**). One hundred fifty five farmers attended these workshops.

Bashour I.

- Chairperson of LWRS, FAFS
- Coordinator of the forage improvement production program
- Participant in Major Irrigation Schemes Technology Transfer and Extension Project (AUB/Ministry of Agriculture/World Bank)
- Representing FAFS in the Central Research Science Laboratory Committee, Member of interfaculty Lab Committee and Academic Development Committee (AUB).
- Member of Administrative, Academic & Curriculum, Library and Research Committees (FAFS)
- Safety Officer, FAFS
- Supervise the soil and water laboratories, interpret results, give recommendations to farmers on fertilization programs and problem solving.

Darwish M.R.

- FAFS Research and Publication committee
- Trainer for a 3-day Workshop for LMOA Engineers, for Management and Project Analysis, Engineering Syndicate, Beirut, March 2004, Major Irrigation Scheme Project, AUB
- Trainers for 8 workshops for Farmers in 3 different clusters in Lebanon on Farm Records keeping, March and April 2004, Major Irrigation Scheme Project,
- Training of Trainers, 3rd and final round, Amman, Jordan, December 2003, a member of the Lebanese National Training Team.
- Consultation work to improve Lebanese farmer managerial skills with the following organizations: UNDP, Mercy Corps, Creative associates.
- A consultant of the economics component of the produced report, of a joint venture work between EnviroTech , UNDP and LMOE – “Effect of Trade Liberalization on Agriculture: with Special Focus on Products where Methyl Bromide is Used”.

Farajalla N.

- Presented a day-long seminar on water resources as part of an IFAD funded project “Provision of Technology Transfer and Extension for Major Irrigation Schemes” aimed at extension workers of the Ministry of Agriculture of Lebanon. March 22, 2004.
- Present a seminar on water pollution in Lebanon as part of a capacity building program for the role of university students in environmental protection. March 20 – 21, 2004. Invited by Hans Seidel Stiftung and the Association for Forest Development and Conservation.

- Gave a presentation at a workshop on training trainers in Integrated Watershed Management. Arabian Gulf University, Bahrain, February 9 - 13, 2004. Invited by ESCWA, UNESCO-IHE, and AWARENT.
- Member of the New Student Orientation Committee
- Member of the AUB Web-Oversight Committee
- Advisor to the FAFS- SRC
- Member Faculty Academic and Curriculum Committee
- Member of the Faculty Student Affairs Committee
- Department Representative to the Library (Library Liaison)
- Department Representative to Wing-B building renovation
- Member of the Advisory Committee for the review of the Lebanese National Action Programme for Combating Desertification
- Served as a Consultant to Arab Resources Development
- Served on a committee that is developing a Water Resources Studies program that is common between FAFS and FEA
- Served as a Consultant to the Union of Northern Associations for Development, Environment and Patrimony
- Participated in setting up a workshop on training trainers in Integrated Watershed Management (ESCWA and UNESCO-IHE). Delft, Netherlands. December 1 – 5, 2003
- Expert Meeting on the Occasion of the International Mountain Day held at the Institute of Marine Science and Oceanography, Batroun, Lebanon. Topic of presentation: ‘Forestry and Water: Watershed Management approach and practices’ (by invitation).
- Organization of the Symposium on Challenges Facing Water Resources Management in Arid and Semi-Arid Regions. Symposium to be hosted by FAFS and FEA in October 2004.

Nimah M.N.

- Chairman of senate ad-hoc committee on promotion
- University Financial Committee
- University Senate
- University Fair Program
- Organization committee of 52nd FAFS anniversary
- Chairman of Social Committee of 52nd FAFS Anniversary
- Advisor to the YMCA in their rural development project
- Participated in Major Irrigation Schemes Technology Transfer and Extension Project (Ministry of Agriculture/World Bank)
- Consultant to KISR Kuwait
- Consultant to Isam Fares Farm at Arida, management contract will be signed with FAFS.
- Co-Chairman of the first Symposium on Water Resources Management in Arid and Semi-arid Areas.
- Member of the new Joint Program with FEA of the new MSc Program “ water resources studies”

Zurayk R.

- Coordinator of the Project for the Provision of Extension Services to Strengthen the Yammouneh Irrigation Systems Rehabilitation project (Ministry of Agriculture/World Bank)
- Coordinator of the Major Irrigation Schemes Technology Transfer and Extension Project (Ministry of Agriculture/World Bank)
- Coordinator of the Ecosystem Management Program
- Director of the Interfaculty Graduate Environmental Sciences Program
- Coordinator of the USAID/AUB Environmental Program

ANALYSIS OF SOIL & WATER SAMPLES

The LWRS Department offers soil, water, plant tissue, and fertilizer analysis services to the Lebanese farmers and the private sector in Lebanon. Chemical and physical analysis were carried out at the LWRS laboratories for hundreds of samples. Interpretation of the results and recommendations were reported.

The revenue obtained from this activity was about 5,100,000 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 technical staff to conduct the service analysis and maintain the laboratories equipment at LWRS. This person will be supervised directly by Dr. I. Bashour who will be responsible about interpreting the results and giving recommendations. At the present time the service work is being conducted by the departmental research assistant and this is consuming all her time and preventing her from participating in departmental research activities. At the beginning of the summer the department received equipment for analysis of minerals and nutrients in soil, water, plant tissue, feed and food. The number of samples that were analyzed at the departmental labs during the summer of 2004 are:
 - 400 Total Nitrogen (Kjeldahl)
 - 300 Phosphorous and Nitrate (Colorimetric)
 - 300 Potassium + Sodium (Flame Photometer)
 - 450 other minerals (Atomic Absorption Spectrophotometer)
 - 100 soil samples were analyzed for physical and chemical properties
- 3- Recruit a forestry specialist/professor to complement the existing activities of the department and assist in teaching courses in water management, soil conservation and also participate in the Landscape Design and Eco-management program.

DEPARTMENT OF NUTRITION AND FOOD SCIENCES

2003-2004

Nahla Hwalla, Chairperson

SUMMARY

The Nutrition and Food Science faculty members conducted their regular research and teaching activities as well as supervised work for graduate students.

NFSC faculty members participated in international conferences and were involved in consultancies for international organizations and regional universities.

Dr. Zeina Kassaify, a professor in Food Microbiology, joined the Department in the Spring Semester.

The Department recommended the appointment of Dr. Sana Ghaddar as Assistant Professor of Nutrition effective October 2004.

In the academic year 2003-2004 the average total number of enrollment in the NFSC Department was 203 students in the undergraduate programs (140 in Nutrition and Dietetics and 63 in Food Science and Management) and 39 students in the graduate programs (27 in Nutrition ,11 in Food Technology and 1 special student).

51 students graduated with B.S. in ND and 1 student graduated with B.S in FSM; and 13 students graduated with M.S.: 10 M.S in Nutrition and 3 M.S. in Food Technology.

Total number of credits taught in the Department in the academic year 2003-2004 was 110: 51 in the Fall Semester, 46 in the Spring semester and 13 in the summer Semester.

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.), Associate Professor
Malek Batal (Ph.D.), Assistant Professor
Zeina Kassaify (Ph.D.), Assistant Professor
Naji Torbey (M.D.), Part-time Senior Lecturer
Basma Hamadeh (M.S.), Instructor
Rana Ghandour (M.S.), Instructor
Maria Koleilat (M.S.), Part-time Instructor
Carla Habib (M.S.), Part-time Instructor
Nada Adra (M.S.), Senior Research Assistant
Amal Malek (M.S.), Research Assistant
Lynn Al Khatib (M.S.), Part-time Research Assistant

- ***Non Academic Personnel***
 Samir Touma, Associate Technician
 Ghassan Kadi, Associate Technician
 Arsine Derboghassian, Associate Technician
 Tania Ghannam, Clerk/ Stenographer
 Mustapha Rawda, Laboratory Aid

ACTIVITIES OF NFSC DEPARTMENT

- **NFSC as WHO Collaborating Center:** Following a meeting with WHO Representative (WR) in Lebanon, the Department submitted a letter to WHO applying to become WHO Collaborating Center. In the meeting the WR informed NFSC Faculty members that a database is available at WHO for use by ND students. He also expressed his readiness to accept ND students for training in Community Nutrition at WHO.
- **Meeting with Dr. Hallab:** Dr. Hallab met with NFSC faculty members on March 8, 2004 and discussed with them means of raising funds for research at NFSC Department. Upon his request, the NFSC Department prepared and submitted the workload of NFSC faculty members.
- **Meeting with NFSC Graduate Assistants and Staff:** The Chairperson held meetings with NFSC graduate assistants and staff and clarified their respective tasks.

FUNDED RESEARCH PROJECTS OF NFSC FACULTY MEMBERS

Dr. Hwalla

- Glycemic and insulinemic responses to hot versus cooled potato in healthy subjects with varied insulin sensitivity. URB. 2003-2004.
- National nutritional micronutrient survey: assessment of anemia and antioxidant micronutrient status of females in Lebanon. Lebanese National Council for scientific Research. 2001-2004
- Development of Carbohydrate-free Bread and the Effects of Herbs. IBSAR. 2003-2004
- Effect of macronutrient composition of meals on Postprandial PYY response of healthy subjects. URB 2004-2005.

Dr. Tannous

- Study of the Tehineh and Halaweh Industry Sector in Lebanon. . UNIDO, Beirut. July-December 2003

Dr. Toufeili

- Determination of sensory thresholds of selected calcium salts and formulation of calcium-fortified Arabic bread. Assessment of calcium bioavailability. URB. October 1, 2003 – September 30, 2004.

Dr. Obeid

- The effects of diet composition on hepatic glycogen synthesis and body weight of rats. URB. October 1, 2003- September 30, 2004.

Dr. Batal

- Determinants of infant feeding practices in Lebanon. URB. October 1, 2003-September 30, 2004.

Dr. Kassaify

- The inhibitory effects of different essential oil formulations in meat and poultry traditional marinades against food borne pathogens. URB. Fall 2004-Fall 2005.

CONSULTANCIES OF NFSC FACULTY MEMBERS**Dr. Hwalla**

WHO Expert Consultation

- Appointed member of the “WHO Expert Advisory Panel on Nutrition” for four years (2004-2008)
- “Regional Consultation on establishing Regional Guidelines on Dyslipidaemia, Obesity and Diabetes.” Beirut, Lebanon. May 31- June 2, 2004.
- “Capacity Development in Nutrition.” Cairo. July 14-15, 2004.
- Joint WHO/FAO workshop on “Fruit and Vegetables for Health.” Kobe, Japan. Sept.1-3, 2004.

Dr. Tannous

- FAO Expert Consultation: Food Safety Regulations and International Trade in the Near East Region. FAO regional Office, Cairo, Egypt. December 15-16, 2003.

Dr. Obeid

- WHO Expert Consultation”: Measurements of Iron Status at Population Level” WHO headquarters, Geneva, Switzerland. April 5 -7, 2004

Dr. Batal

- WHO Expert Consultation: facilitator for CDCynergy Workshop. Manama, Bahrain. January 19-27, 2004.
- Participated in a consultancy for “Holistic Landscape Approach to Biodiversity Use in Lebanon: Partnering Landowners” with IBSAR. July 2004.

Dr. Kassaify

- USAID Expert Consultation: (SMART) program to provide assistance to Lebanese rural communities in the rehabilitation of physical spaces to be used as food production centers. Lebanon. July- September 2004

ACTIVITIES OF NFSC FACULTY MEMBERS: CONFERENCES, MEETINGS AND WORKSHOPS**Dr. Hwalla**

- Participated in the 9th European Nutrition Conference. Rome, Italy. October 1-4, 2003.
- Invited by Dr. Usta to give a lecture on “Obesity” to medical students in the Basic Biochemistry course. January 19, 2004.
- Gave a presentation on “Life style intervention for CVD” organized by Task Force for Prevention of Non-Communicable Diseases. Doctor’s Syndicate, February 21, 2004.
- Gave a seminar on “Obesity in Lebanon.” Faculty of Health Sciences, March 31, 2004.
- Gave a lecture on “Modern diet and Public Health Concerns in Lebanon.” Phoenicia Hotel, April 3, 2004.
- Invited speaker in the 5th International Conference on Nutrition and Fitness. Athens, Greece. June 9-14, 2004.
- Invited speaker in the 19th International Medical Convention. Medical Care in 2004: A Journey across Cultures. Beirut, Lebanon. June 28-July 2, 2004.

Dr. Tannous

- Participated in the National Food Safety Day Conference. UN House, Beirut. January 26, 2004
- Organized and attended an IFT approved training course: “Thermal Process Control School” at FAFS sponsored by FAFS, SRI and Syndicate of Lebanese Food Industries. The course was offered by three professors from USA, and was attended by food industry people and NFSC graduate students. March 23-26, 2004.
- chaired a session on Technology Transfer in Food Processing at the ESCWA on Capacity Building through Technology Transfer and Networking, March 2004
- Participated in the Lebanon Quality Program Workshop organized by the Ministry of Economy and European Union. Beirut, Lebanon. June 2004.

Dr. Obeid

- Presented a lecture on “Diet and atherosclerosis” in the Middle East CARDIOSTIM Congress. Al Bustan Hotel, Beit Mery. Lebanon. October 2-4, 2003
- Invited by Dr. Usta to give a lecture on “Vitamins” to medical students in the Basic Biochemistry course. November 13, 2004.
- Invited by Dr. Usta to give a lecture on “Minerals” to medical students in the Basic Biochemistry course. November 14, 2004.
- Attended a conference entitled Ostase and PSP organized by the Lebanese Syndicate of Biologist and Beckam- Coulter/Electra. Hazmieh Rotana Hotel, Lebanon. January 22, 2004
- Attended a conference on: Fighting together Cardiovascular Disease, Beit al Tabib, February 19-21, 2004.
- Invited by Cyprus Dietetic Association and the American Overseas Dietetic Association to give a lecture entitled “Metabolic regulation of food intake” at their conference “Promoting *Excellence in Nutrition Practice* “in a joint educational event in Lefkosia (Nicosia), Cyprus. March 26 - 28, 2004.
- Presented a lecture in the” Nutrition: Facts and Realities”. Workshop. FAFS. May 13, 2004.
- Presented a lecture entitled “Food Intake and Hepatic Glycogenesis of Rats maintained on high protein diets supplemented with Dihydroxyacetone(DHA) in the 13th European Congress on Obesity. Prague, Czech Republic. May 26-29, 2004.
- Attended the First Biennial Symposium: Agricultural Policies in the Arab World. FAFS, AUB June 18, 2004.

Dr. Batal

- Organized a one-day workshop entitled” Nutrition: Facts and Realities”. The workshop is aimed at Directors and Public Health Educators in 25 centers affiliated with the Ministry of Social Affairs. The workshop was an opportunity to present the results of the study: “Determinants of infant practices across Lebanon.” FAFS. May 13, 2004.
- Attended a workshop on “Improving Health Communication Strategies for the Control and Prevention Micronutrient Malnutrition” organized by MOH Iraq and WHO. Amman, Jordan. June 14-17, 2004

Dr. Kassaify

- Assisted in the organization and attended an IFT approved training course: “Thermal Process Control School” at FAFS sponsored by FAFS, SRI and Syndicate of Lebanese Food Industries. The course was offered by three professors from USA, and was attended by food industry people and NFSC graduate students. March 23-26, 2004.
- Attended the Expert Panel of School Feeding and Education Program. Beirut, Lebanon. May 2004

- Attended the joint annual conference of the Canadian Institute of Food Technology (CIFST) and Agriculture and Agri-Food Canada (AAFC). Guelph, Canada. May 16-19, 2004
- Attended a Workshop on Food Safety and Quality; State of Research in the Southern Mediterranean Countries. Mediterranean Agronomic Institute. Bari, Italy. July 1-2, 2004
- Attended the Institute of Food Technologists Annual Meeting. Las Vegas, USA. July 12-16, 2004

Mrs. Hamadeh

- Attended a workshop on HACCP Development and Implementation. Marriott Hotel, Beirut. January 16-17, 2004

PUBLICATIONS

Dr. Hwalla

- Mehio-Sibai A, **Hwalla N**, Adra N., Rahal B, 2003. Prevalence and Co-variates of Overweight and Obesity in Lebanon: Findings from the First epidemiological Study. *Obesity Research*, 11(11), 1353-61 (Corresponding author).
- **Hwalla N**, Adra N, and Jackson RT, 2004. Iron Deficiency is an Important Contributor to Anemia among Reproductive Age Woman in Lebanon. *Ecology of Food and Nutrition*, 43:77-92.
- **Hwalla N**, Torbay N, Andari N, Adra N, Azar ST, Habbal Z, 2004. Restoration of Normal Insulinemia and Insulin Sensitivity in Hyperinsulinemic Normoglycemic Men by a Hypoenergetic High Monounsaturated Fat Diet. *JNEM 14:1*
- Omar A. Obeid PhD, Sabrina T. Bittar MSc, **Nahla Hwalla** PhD and Peter W. Emery PhD. The effect of diet supplementation with glutamine, dihydroxyacetone and leucine on food intake, weight gain and postprandial glycogen metabolism of rats. Accepted for publication in *Nutrition*.

Dr. Tannous

- Salamoun, M., Kizirian, A., **Tannous, R.**, Nabulsi. M., Choucair, M., Deeb, M., and Fulaihan, GH. Low Calcium and Vitamin D Intake in Healthy Children and Adolescents and their Correlates. Accepted for publication in *European Journal of Clinical Nutrition*.
- Harakeh, S., Yassin, H., Gharios, M., Barbour, E., Hajjar, Sh., El Fadel, M., Toufeili, I., and **Tannous, R.** Isolation, molecular characterization and antibiotic resistance patterns of *Salmonella* and *E. Coli* isolates from meat-based fast food in Lebanon. Accepted for publication in *The Science of the Total Environment*.

Dr. Toufeili

- **Toufeili, I.** and Kokini, J.L. Glass Transition Behavior and Rheological Properties of Surfactants and Gluten-Surfactant Mixtures. *Cereal Chemistry* (2004), 81(5):585-588.

Dr. Obeid

- **Obeid OA**, Johnston K, and Emery PW. Plasma taurine and cysteine levels following an oral methionine load: Relationship with coronary heart disease. *Eur J Clin Nutr*; 2004, 58(1): 105-9.
- **Omar A. Obeid** PhD, Sabrina T. Bittar MSc, Nahla Hwalla PhD and Peter W. Emery PhD. The effect of diet supplementation with glutamine, dihydroxyacetone and leucine on food intake, weight gain and postprandial glycogen metabolism of rats. Accepted for publication in *Nutrition*.

Dr. Batal

- **Batal, Malek**; Gray-Donald, Katherine; Kuhnlein, Harriet; and Receveur Olivier. Estimation of traditional food intake in indigenous communities in Denendeh and Yukon. *International Journal of Circumpolar Health*. (In press)
- **Batal, Malek**; Boulghourjian, Chojhik. Breastfeeding Initiation and duration in Lebanon: Are the Hospital “Mother Friendly”? *Journal of Pediatric Nursing* (In press)

Dr. Kassaify

- **Kassaify, Z.G.**, and Mine, Y. (2004). Effect of food protein supplements on *Salmonella enteritidis* infection and prevention in laying hens. *Poult Sci.*; 83(5):753-60
- **Kassaify, Z.G.**, and Mine, Y. The evaluation of the effect of non-immunized egg yolk powder, as a feed supplement, on the colonization of *Salmonella typhimurium*, *E. coli* 0157:H7 and *Campylobacter jejuni* in laying hens. *Poultry Science*. Accepted in February, 2004.

Abstracts

Dr. Hwalla

- Najjar N, **Hwalla N**. 2003. Glycemic and insulinemic responses to hot versus cooled potato in healthy subjects with varied insulin sensitivity. *Annals Nutrition and Metabolism* 47:64.
- Bitar, ST., **Hwalla, N.**, Torbey, N., Emery, P.W. Obeid, OA. The effect of diet supplementation with glutamine, dihydroxyacetone and leucine on the *in vivo* rate of postprandial glycogen synthesis. Presented at Nutrition Society meeting, 7-10 July 2003, King's College London, London. UK. *Proc Nutr Soc*: 2003; 62, 44A.
- Boukarim, L., **Hwalla, N.**, Torbey, N. and Obeid, OA. The *in vivo* rate of postprandial glycogen synthesis in glucocorticoid-treated rats maintained on different high protein diets. Presented at Nutrition Society meeting, 7-10 July 2003, King's College London, London. UK. *Proc Nutr Soc*: 2003; 62, 44A
- Talar Hagopian, **Nahla Hwalla**, Naji Torbey and Omar Obeid. “Food intake and hepatic glycogenesis of rats maintained on high protein diets supplemented with Dihydroxyacetone(DHA).*International Journal of Obesity*, 2004; 25 (suppl 1), S154

Dr. Obeid

- Bitar, ST., Hwalla, N., Torbey, N., Emery, P.W. **Obeid, OA**. The effect of diet supplementation with glutamine, dihydroxyacetone and leucine on the *in vivo* rate of postprandial glycogen synthesis. Presented at Nutrition Society meeting, 7-10 July 2003, King's College London, London. UK. *Proc Nutr Soc*: 2003; 62, 44A.
- Boukarim, L., Hwalla, N., Torbey, N. and **Obeid, OA**. The *in vivo* rate of postprandial glycogen synthesis in glucocorticoid-treated rats maintained on different high protein diets. Presented at Nutrition Society meeting, 7-10 July 2003, King's College London, London. UK. *Proc Nutr Soc*: 2003; 62, 44A
- **O. Obeid**: Diet and the prevention and management of atherosclerosis. *Lebanese Medical Journal*, 2003, Vol 41 (9suppl) p38-39
- Talar Hagopian, Nahla Hwalla, Naji Torbey and **Omar Obeid**. “Food intake and hepatic glycogenesis of rats maintained on high protein diets supplemented with Dihydroxyacetone(DHA).*International Journal of Obesity*, 2004; 25 (suppl 1), S154

UNIVERSITY AND FAFS COMMITTEES

Dr. Hwalla

- University Senate
- Senate Steering Committee
- Academic and Curriculum Committee
- Chair of Ad Hoc Grievance Committee
- Administrative Committee
- Member of Executive Committee of IBSAR

Dr. Tannous

- Coordinator of Food Science and Management Program
- University Board of Graduate Studies
- Graduate Studies Committee in FAFS
- Academic and Curriculum Committee

Dr. Toufeili

- Chair of Research Committee
- Advisory Committee

Dr. Obeid

- Coordinator of Nutrition and Dietetics Program
- Research Committee
- Graduate Students Committee in FAFS
- Ad Hoc Committee of FAFS Equipment
- Ad Hoc Committee of Wing B Renovation
- University Radiation Safety Committee
- Commencement Committee

Dr. Batal

- University Students and Faculty Committee
- FAFS Students Admission Committee
- Students Affairs Committee
- Ad Hoc committee to review FAFS Strategic Plan for 2000-2005

SERVICES

Dr. Hwalla

- Appointed on the editorial board of Annals of Nutrition & Metabolism
- President of the Lebanese Association of Nutrition and Food Science
- Committee member of Campaign for Prevention of CVD

Dr. Tannous

- President of the Lebanese Association for Food Scientists and Technologists
- Chairman of the Experts Committee appointed by the Minister of Economy and Trade which drafted the Food Safety Law for Lebanon, and submitted to the Council of Ministers of Lebanon
- Member of Advisory Committee: Lebanon Quality Program, appointed by the Minister of Economy and Trade, and sponsored by the European Union. Attended two conferences organized by the program.

- Designated and ordered equipment for the Creamery at AREC

Dr. Toufeili

- Member of the Lebanese Association for Food Scientists and Technologists

Dr. Obeid

- Member of the Executive Committee of Lebanese Association of Nutrition and Food Science

Dr. Batal

- Member of the Lebanese Association of Nutrition and Food Science

Mrs. Hamadeh

- Member of the Lebanese Association of Nutrition and Food Science
- Member of the Lebanese Association for Food Scientists and Technologists

Mrs. Ghandour

- Member of the Lebanese Association of Nutrition and Food Science

COURSES OFFERED BY NFSC DEPARTMENT

Fall 03-04

Course	Credits	Number of Students	Instructor
NFSC 220	3	50	Habib Mrad
NFSC 221	3	47	Hwalla, Ghandour
NFSC 222	3	59	Batal
NFSC 240	2	61	Batal, Koleilat
NFSC 261	3	67	Abdel Masih
NFSC 265	3	84	Toufeili
NFSC 274	3	58	Obeid
NFSC 287	2	68	Tannous
NFSC 289	1	68	Hamadeh
NFSC 290	3	60	Ghandour
NFSC 292	2	19	Torbey
NFSC 296	1	20	Batal
NFSC 299	2	7	Staff
NFSC 300 A	1	1	Staff
NFSC 300 B	2	2	Staff
NFSC 300 C	3	2	Staff
NFSC 310	3	8	Toufeili
NFSC 311	3	15	Hwalla
NFSC 314	3	14	Obeid
NFSC 370	3	5	Tannous
NFSC 395	1	4	Hwalla
NFSC 396	1	6	Hwalla
TOTAL	51		

Spring 03-04

Course	Credits	Number of Students	Instructor
NFSC 220	3	55	Mrad
NFSC 221	3	92	Batal, Ghandour
NFSC 261	3	65	Toufeili
NFSC 267	2	66	Hamadeh
NFSC 277	3	54	Kassaify
NFSC 282	2	45	Kassaify
NFSC 285	3	30	Obeid
NFSC 288	3	8	Tannous/ Hamadeh
NFSC 293	3	54	Hwalla
NFSC 294	2	53	Ghandour/ Koleilat
NFSC 296	1	35	Batal/ Kassaify
NFSC 299	2	46	Hwalla
NFSC 300 A	1	10	Staff
NFSC 300 B	2	1	Staff
NFSC 300 C	3	5	Staff
NFSC 304	3	4	Tannous
NFSC 306	3	10	Batal
NFSC 315	3	11	Obeid
NFSC 395	1	4	Hwalla
TOTAL	46		

Summer 03-04

Course	Credits	Number of Students	Instructor
NFSC 265	3	24	Toufeili
NFSC 280	0	10	Tannous
NFSC 296	1	2	Hwalla
NFSC 299	2	0	Hwalla
NFSC 300 A	1	1	Staff
NFSC 300 B	2	1	Staff
NFSC 300 C	3	6	Staff
NFSC 395	1	3	Hwalla
TOTAL	13		

STUDENT APPLICATIONS TO NFSC DEPARTMENT**FALL 2003/2004**

	Applications Received	Students Accepted	Students Registered
UG-ND	326 new	84 new	16 new
	62 transfer	45 transfer	25 transfer
UG-FSM	101 new	119 new	36 new
	7 transfer	5 transfer	3 transfer
NUT-GRAD	55	28	5
FT-GRAD	36	24	5

SPRING 2003/2004

	Applications Received	Students Accepted	Students Registered
UG-ND	37 new	4 new	2 new
	16 transfer	9 transfer	7 transfer
UG-FSM	9 new	12	7
	3 transfer	4 transfer	6 transfer
NUT-GRAD	6	3	2
FT-GRAD	6	5	1

FALL 2004/2005

	Applications Received	Students Accepted	Students Registered
UG-ND	340 new	100 new	Not available yet
	41 transfer	27 transfer	Not available yet
UG-FSM	91 new	129 new	Not available yet
	15 transfer	9transfer	Not available yet
NUT-GRAD	28	23	3
FT-GRAD	19	16	6

UNDERGRADUATE AND GRADUATE STUDENT ENROLLMENT IN NFSC DEPARTMENT

UG-ND

	Fall 2003/2004	Spring 2003/2004	Summer 2003/2004
NDI	42	26	3
NDII	50	49	22
NDIII	44	53	18
ND special	7	9	8
Total	143	137	51

UG-FSM

	Fall 2003/2004	Spring 2003/2004	Summer 2003/2004
FSMI	47	53	14
FSMII	8	14	14
FSMII	1	2	8
Total	56	69	36

Graduates

	Fall 2003/2004	Spring 2003/2004	Summer 2003/2004
Nut (Th)	21	21	7
Nut (Non -Th)	4	4	4
Nut (Pros)	2	1	0
FT (Th)	10	10	5
FT (Non -Th)	0	0	0
FT (Pros)	1	1	0
Special	1	1	0
Total	39	38	16

**UNDERGRADUATE AND GRADUATE STUDENT GRADUATION FROM NFSC
DEPARTMENT**

Undergraduate

	Fall 2003/2004	Spring 2003/2004	Summer 2003/2004
ND	9	42	4
FSM	1	-	1

Graduate

	Fall 2003/2004	Spring 2003/2004	Summer 2003/2004
Nutrition	2	8	2
Food Technology	1	2	1

M.S THESIS STUDENTS COMPLETED (WITH TITLE AND DATE) BY ADVISOR

- **Advisor: Dr. Hwalla**
Lynn El-Khatib: Assessment of anemia, iron, folate, and B₁₂ status in Lebanese women of child-bearing age (June 2004)
Annie Dekermejian: Modification of glucocorticoid effects on body weight gain and plasma lipids by changes in diet composition (June 2004)
- **Advisor: Dr. Tannous**
Wilma Zakhour: Adulteration and Microbial Contamination of Tehineh. (June 2004)
- **Advisor: Dr. Toufeili**
 Mohamad Badaoui Najjar: Development of a Hazard Analysis Critical Points (HACCP) Plan for Halawet El Jibn (A Lebanese Cheese Derived Pastry) (September 2004)
- **Advisor: Dr. Obeid**
Laila Boukarim: The in vivo rate of postprandial glycogen synthesis in Glucocorticoid-treated rats maintained on different high protein diets (February 2004)
Rima El Awar: Postprandial ghrelin status following macronutrient manipulation of meals in healthy young women (June 2004)
- **Co-Advisor: Dr. Kassaify**
 Mohammad Najjar: Mohamad Badaoui Najjar: Development of a Hazard Analysis Critical Points (HACCP) Plan for Halawet El Jibn (A Lebanese Cheese Derived Pastry) (September 2004)

M.S. STUDENTS IN NFSC DEPARTMENT

Thesis Students

	Student	Major	Advisor
1.	Nancy Helou	Nutrition	Dr. Hwalla
2.	Michelle Iskandar	Nutrition	Dr. Hwalla
3.	Aryo Movahedi	Nutrition	Dr. Hwalla
4.	Dalia Tannous	Nutrition	Dr. Hwalla
5.	Lynn El Kahatib	Nutrition	Dr. Hwalla
6.	Annie Dekermenjian	Nutrition	Dr. Hwalla
7.	Laila Boukarim	Nutrition	Dr. Obeid
8.	Rima El Awar	Nutrition	Dr. Obeid
9.	Maha Mrayati	Nutrition	Dr. Obeid
10.	Zeina Jamal	Nutrition	Dr. Obeid
11.	Maya Bassil	Nutrition	Dr. Obeid
12.	Nadine Abdel Ahad	Nutrition	Dr. Obeid
13.	Cynthia Farhat	Nutrition	Dr. Obeid
14.	Carla Vartanian	Nutrition	Dr. Batal
15.	Lara Kallas	Nutrition	Dr. Batal
16.	Rita Moujaeas	Nutrition	Dr. Batal
17.	Nadia Aftat	Nutrition	Undecided
18.	Manal Azzi	Nutrition	Undecided
19.	Manal El Fakhani	Nutrition	Undecided
20.	Wilma Zakhour	Food Technology	Dr. Tannous
21.	Gaby Edde	Food Technology	Dr. Tannous
22.	Mohamad Najjar	Food Technology	Dr. Toufeili/ Dr. Kassaify
23.	Yasmine Haddad	Food Technology	Dr. Toufeili
24.	Diana Abu Jawdeh	Food Technology	Dr. Toufeili
25.	Manal Cassab	Food Technology	Dr. Toufeili
26.	Alain Bitar	Food Technology	Dr. Toufeili
27.	Randa Chlala	Food Technology	Dr. Toufeili
28.	Carole Saadeh	Food Technology	Dr. Toufeili
29.	Danielle Tabet	Food Technology	Undecided

Non Thesis Students

Advisor: Dr. Hwalla

	Student	Major
1.	Rana Seif	Nutrition
2.	Dalia Barakat	Nutrition
3.	Riwa Kahali	Nutrition
4.	Raya Nassrallah	Nutrition
5.	Nancy Milan	Nutrition
6.	Massarah Kasbah	Nutrition
7.	Rajwana Natafqi	Nutrition

Prospective Graduates

Advisor: Dr. Hwalla

	Student	Major
1.	Ossanna Nashalian	Nutrition
2.	Souha Aliami	Nutrition

GRADUATE ASSISTANTS IN NFSC DEPARTMENT

Fall 2003/2004

- | | |
|-----------------------|----------------------------|
| 1. Dayana Abu Jawdwh | 8. Rima El Awar |
| 2. Ana Karbaian | 9. Dalia Tannous |
| 3. Cynthia Faraht | 10. Lara Kallas |
| 4. Alain Bita | 11. Zeinab El Khansa |
| 5. Randa Chlala | 12. Zeina Jamal |
| 6. Gaby Edde | 13. Mohamad Badaoui Najjar |
| 7. Annie Dekermenjian | |

Spring 2003/2004

- | | |
|----------------------|------------------------|
| 1. Manal Cassab | 7. Dalia Tannous |
| 2. Dayana Abu Jawdwh | 8. Rima El Awar |
| 3. Mohamad Najjar | 9. Rita Mujaeas |
| 4. Gaby Edde | 10. Zeina Jamal |
| 5. Randa Chlala | 11. Annie Dekermenjian |
| 6. Rana Seif | 12. Cynthia Farhat |

Summer 2003/2004

1. Dalia Tannous
2. Maya Bassil
3. Manal Kassab

DIETETIC INTERNSHIP

The Dietetic interns at AUH for academic year 2003/2004 were:

1. Carla Haibi
2. Angela Sawwan
3. Khouloud Maatouk
4. Darine Barakat
5. Zeinab Maktabi

The students accepted for the dietetic program for the academic year 2004/2005:

1. Lamis Joumaa
2. Melanie Matar
3. Hind Dakil
4. Joelle Zeitouny
5. Rola El Rassi

NFSC DEPARTMENTAL ACTIONS

Twelve Department meetings were held in the academic year 2003/2004 and the following actions were taken:

Academic Program

- NFSC 287, 288 and 289: Changes were made in the contents of NFSC 287, 288 and 289 to fit the requirements of FSM, ND and AGR students. The Department recommended offering NFSC 288 in Fall to FSM and AGR students, and NFSC 287/289 in Spring to FSM and ND students.
- ACCT 210: NFSC faculty members recommended replacing a course in Social Sciences in the FSM curriculum by ACCT 210 (Financial Accounting, 3 cr) since the school of Business has recently designated ACCT 210 as a prerequisite to the three Business courses (FINA 210, ACCT 215 and MKTG 210) taken by FSM students.
- Number of Students in Courses: Limiting the number of students to 50 in undergraduate courses and to 12 in graduate courses.
- Minor in Nutrition and Dietetics, and Food Science and Management: NFSC faculty members added criteria for the admission to a minor in ND and FSM.
- Food Science and Management Program: Dr. Hwalla presented concerns by students related to the FSM curriculum. In this regard, a memo was sent by an FSM III student (Mr. Raymond Kassatly) suggesting changes in FSM curriculum. The Department agreed to some of his suggested changes and Dr. Hwalla formulated a letter that answered Mr. Kassatly's queries.
- Food Science and Management Program: The chairperson expressed concern over the big difference in the admission scores between Nutrition and Dietetics, and Food Science and Management and suggested increasing the admission score of FSM to around 500 to attract students of high academic qualifications in both majors
- New Graduate Courses: The Department received a letter from a graduate Nutrition student (Ms. Raya Nassrallah) that expressed concern over the low number of graduate courses particularly for the Nutrition non-thesis program. It was noted that in Fall 2004/2005, a new Nutrition faculty member will join the Department and will offer new courses.
- Changes in the list of Fall 04-05 Course offerings: Changes were made in the course offerings in view of the two new faculty members (Dr. Zeina Kassafy and Ms. Maria Koleilat) joining the department.

Faculty

- New faculty member: The NFSC Department recommended the appointment of Dr. Ghaddar as Assistant Professor of Nutrition effective October 2004
- Food Engineer: NFSC faculty members voted unanimously to recommend approval of a new line in Food Engineering.
- Food Scientist: NFSC faculty members voted unanimously to recommend the advertisement for a faculty position in Food Processing

NFSC Faculty Lines in Academic Year 2004/2005: Increasing the number of professorial faculty lines in the Department to a total of nine; five in Nutrition and Dietetics and four in Food Science. The number is recommended to become ten when the Food Science and Management Program finish its third year.

Personnel Shortage

- **Technical person:** The NFSC Faculty members recommended recruiting a professional technical person with high level of education and expertise to look after the sophisticated equipment in the Department.
- **Secretary:** NFSC faculty members recommended the appointment of a qualified secretary to support the Department administrative needs.
- **Research Assistant:** NFSC faculty members recommended the appointment of an additional research assistant in the department to help graduate students in conducting their research projects. The large number of students makes it difficult for the current RAs to satisfy the need.

Scientific Communication Course: NFSC faculty members submitted a memo to the Dean indicating its reservation regarding the introduction of the graduate course “Scientific Communication.”

Justification for reservation:

1. NFSC graduate students acquire the scientific writing and communication skills through practical work as part of their tutorial projects which are often of publishable quality.
2. Scientific writing and communication are very specific to each field of study.
3. Workshops on scientific communication have been organized in collaboration with University Libraries as part of a seminar course.
4. The course will place unnecessary financial burden of two extra credits
5. The course will deprive students of the substantial benefits they incur from attending seminars on up-to-date topics of Nutrition and Food Science.

Capital Budget: The NFSC Department submitted two lists of equipment needed by the Department to be included in AUB Budget and ASHA Budget respectively for 2004/2005. The Department also recommended the renovation of the two animal rooms in the third floor in Wing B and the small room next to Lab Room 422 in Wing B.

Visiting Scholar: The nomination by the department of Dr. Keith Frayn as a visiting scholar in the academic year 2003/2004 was approved by the University Research Board. Dr. Keith Frayn visited the Department July 18-23, 2004, met with faculty and students and presented lectures on recent issues of Nutrition.

AUB Catalogue Changes: The NFSC Faculty members reviewed the university catalogue sections related to the Department and suggested some modifications

FAFS Strategic Plan 2000-2005: The NFSC Faculty members reviewed the strategic plan and presented their comments to Dean of FAFS.

Number of Graduate Assistants/Students: The Department discussed the increasing number of graduate students and suggested that the maximum number of thesis students per NFSC Faculty member be 5, and the total number of graduate assistants be set to be 30% of the number of graduate students.

Performance of NFSC Graduate Assistants: Complaints were raised by the NFSC faculty members about the performance of NFSC graduate assistants. In response the chairperson suggested keeping files on GAs to record their fulfillment of duties and any complaints about their work. These files will be available for Faculty members for evaluation of GAs when renewing their contract, RA appointment or when writing their recommendations for further study or work.

ISSUES PURSUED BY THE DEPARTMENT

Food Processing Pilot Plant: FPDU met with NFSC Chairperson and FAFS Dean and presented their suggested changes for the design of the pilot plant. The new pilot plant will be rectangular instead of circular and will have two floors: Basement and Ground Floor. It was also decided that the basement will be used for Nutrition equipment and storage. Work is planned to start in April 2005. The provision of space in the Basement will ease some of the space needs of the Department.

USAID/ASHA Grant: The Department received the equipment Feeding Analysis System (September 2004) and The Ankom Fiber Analyzer (August 2004) ordered from ASHA grant. The Freeze Dryer was ordered but is currently under bidding.

FUTURE DEVELOPMENT

- The Department applied to become the WHO Collaborative Center for Nutrition. Response has not been received yet.
- Registration of dietetics as a profession in Lebanon is still underway.
- Offering R.D. from Lebanon is in progress.
- The Department is aspiring to have two more faculty members one in Nutrition and one in Food Science.

DEPARTMENT OF PLANT SCIENCES

2003-2004

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 enrolment 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.

Information on departmental personnel, teaching, research and publications, and professional activities of faculty members during academic year 2003-2004 are stated briefly on the following pages.

I- 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
Haidar, Mustapha, Ph-D, Associate Professor of Weed Sciences
Lafta, Abbas, Ph-D, Assistant Professor of Horticulture
Kawar, Nasri, Ph-D, Professor of Pesticides, part-time
Makhzoumi, Jala, Ph-D, Associate 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, Professor of Plant Breeding

Senior Research Assistant

Husseini, Salma

Research Assistants

Adossides, Anthoula., M.Sc., full-time *
Daouk, Mona, B.Sc., full-time*
Debian, Nahed, M.Sc., part-time*
El-Salibi, Ibrahim, M.Sc., full-time*
Haddad, Carole, B.Sc., part-time*
Hanna, Lucia, M.Sc., full-time
Kawtharani, Hadia, M.Sc., part-time*
Nemer, Nabil, M.Sc., full-time
Sleem, Khaled, B.Sc., full-time*
Sobh, Hana, M.Sc., full-time*
Wakim, Rita, B.Sc., part-time*

* On grants

Graduate Assistants

Abi Ghanem, Rita
Attalah, Shadi
Chamoun, Rony
Eid, Sahar
El Rassy, Inaam
Fahed, Serge
Karame, Joumana
Nehmeh, Maya
Selwan, Rhea
Zeaiter, Abdallah

Non-Academic Perosnnel

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

II. TEACHING ACTIVITIES

1. Courses and enrollment

	No. of students	Core courses	Electives	Others
<u>Fall</u>				
Undergraduate	124	9	2	0 tutorial
Graduate	10	1		2 tutorials 1 Seminar Thesis
<u>Spring</u>				
Undergraduate	167	11	3	1 tutorial
Graduate	27	5	1	1 seminar Thesis
<u>Summer 01</u>				
Undergraduate	9	1		
Graduate	4			Thesis

2. No. of graduate students enrolled and graduated

	<u>No. of students</u>
<u>Fall</u>	
Enrolled	1 (Plant Science), 6 (Plant Protection)
Graduated	1 (Plant Science), 1 (Plant Protection)
<u>Spring</u>	
Enrolled	1 (Plant Science), 6 (Plant Protection)
Graduated	1 (Plant Protection)
<u>Summer</u>	
Enrolled	1 (Plant Science), 3 (Plant Protection)

III. RESEARCH AND PUBLICATIONS

1. Research Projects with Main Investigator(s)

- Determination of bioactive compounds in *Melia azedarach* extracts against economic insect pests on vegetable crops. **Dr. E. Abou Fakhr Hammad.**
- 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.**
- The role of Inositol 1,4,5-Triphosphate in Light Signal Transduction in Dodder (*Cuscuta* spp) Seedlings. **Dr. M. Haidar**
- Evaluation of yield and postharvest quality of potatoes exposed to water stress. **Dr. A. Lafta.**
- Evaluation of graded levels of organic manure on yield and quality of vegetable. **Dr. A. Lafta.**
- A study of garden landscapes in Beirut: the design and the vernacular. **Dr. J. Makhzoumi.**
- Characteristic, host range and control of fire blight disease of pome fruits in Lebanon. **Dr. A. T. Saad.**
- Disease forecasting for management of epidemic diseases on apple and potato in Lebanon. **Dr. A. T. Saad.**
- The health status of certified seed potato tubers. **Dr. A. T. Saad.**
- Top up Biodiversity Enabling Activity (United Nation Development Program). **Dr. S. Talhouk.**
- Development of the National Biosafety Framework for Lebanon (United Nation Development Program). **Dr. S. Talhouk.**
- A Holistic Landscape Approach to Biodiversity Use in Lebanon: Partnering with landowners. **Dr. S. Talhouk.**
- Generation of New plant-derived commercial products from indigenous Lebanese plants or other ecologically appropriate ones. **Dr. S. Talhouk.**
- Agronomic studies on improving safflower. II. N fertilization and supplementary irrigation. **Dr. S.K. Yau.**
- Oil extraction from locally grown safflower seed. **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 - Jwadah, Y, Dakhil, H., El-Mehtar, S. and Lee, I.M. 2003. Almond witches'- broom phytoplasma, a potential threat to almond, peach and nectarine. Canadian Journal of Plant Pathology: 28-32

Choueiri, E., S. El Zammar, F. Jreijiri, D. Mnayer, R. Massaad, **A. T. Saad**, **L. Hanna**, and C. Varveri. 2004. Phytosanitary status of potato in the Bekaa valley in Lebanon. EPPO Bulletin 34(1): 117-122.

- Haidar M. A.** 2003. Characterization of the interaction between cryptochromes and phytochromes in blue light-induced coiling and prehaustoria development of dodder (*Cuscuta campestris*) seedlings. *Annals of Applied Biology* 143:57-62.
- Hourani, H and **Y. Abou Jawdah.** 2003. Immunodiagnosis of cucurbit yellow stunting disorder virus using polyclonal antibodies developed against recombinant coat protein. *Journal of Plant Pathology* 85(3): 1-8.
- Jazzar, C. and **E. Abou-Fakhr Hammad.** 2004. Efficacy of multiple biocontrol agents against the sweetpotato whitefly *Bemisia tabaci* (Gennadius) (Homoptera: Aleyrodidae) on tomato. *Journal of Applied Entomology* 128:1-7.
- Nemer, N.** and J. Nasr. 2004. Saving the Cedars of Lebanon. *Biocontrol News and Information* 25(1): 9N-11N.
- Jazzar, C. and **E. Abou-Fakhr Hammad.** 2003. The efficacy of enhanced aqueous extracts of *Melia azedarach* leaves and fruits integrated with the *Camptotylus reuteri* releases against the sweetpotato whitefly nymphs. *Bulletin of Insectology* 56(2): 269-275.
- Sidahmed M.M., Awadalla H.H. and **Haidar M.A.** 2004. Symmetrical multi-foil shields for reducing spray drift. *Biosystems Engineering* 88:305-312.
- Yau, S.K.** 2003. Optimal sowing date for rainfed safflower in the high elevation Bekaa Valley of Lebanon. *Sesame and Safflower Newsletter* 18: 111-115.
- Zahreddine H., C. Clubbe, R. Baalbaki, A. Ghalayini, and **S.N. Talhouk.** 2004. Status of native species in threatened mediterranean habitats: The case of *Pancratium maritimum* L. (sea daffodil) in Lebanon. *Biological Conservation*, 120/1 pp. 11-18.

3. Books or Chapters in a Book

- Abou-Fakhr Hammad, E.M.** 2004. "Insect and Mite Pests and their Natural Enemies (Parasitoids and/or Predators) in the Middle East" and "Chinaberry, *Melia azedarach* L., a Biopesticidal tree". *Encyclopedia of Entomology*, John L. Capinera (Ed.). Kluwer Academic Publishers, Hingham (MA), USA.
- Yau, S.K.,** M. Bounejmate, M., Ryan, J., and Nassar, A.(2004) Sustainable Barley-legumes Rotations for Semi-arid Areas of Lebanon. In Rao, S.C. and Ryan, J. (eds.) *Challenges and Strategies for Dryland Agriculture*. ASA, CSSA, and CSSA, Madison, USA. CSSA Special Publication 32. pp. 219-227.

4. Abstracts

- Abou Jawdeh, Y.** and H. Hourani. 2004. Detection of the *Crinivirus, cucurbit yellow stunting disorder virus* using antibodies produced against its recombinant coat protein. *Phytopathology* 94: S2.
- Feingold, S. E., D. Knauber, **A. Lafta,** and J. Lorenzen. 2004. Mapping P450 related genes in potato. *Amer. J. Potato Res.* 81:59.
- Haidar, M. A** and Chatila R. 2004. Evidence that carotenoids and chlorophyll are not the chromophores of blue light-induced prehaustoria in dodder (*Cuscuta campestris*) seedlings. *Proceedings Weed Science Society of America*, Salt Lake, USA,

Haidar, M.A., C-Y Hung, I Y Perera and W F Boss. 2004. Blue light induced changes in inositol 1,4,5-trisphosphate in dodder (*cuscuta campestris*) seedlings. Proceedings 4th International Weed Science Congress, Durban, South Africa, p 115.

Saad, A.T., L. Hanna, R. Abi Ghanem and E. Choueiry. 2004. Fungus diseases on certified seed potato tubers. *Phytopathology* 94:S90.

Timsah, M, **L. Hanna** and **A. T. Saad**. 2004. Histopathology of *Rhamnus alaternus* knots induced by *Pseudomonas savastanoi*. *Phytopathology* 94:S102.

Yau, S.K. and J. Ryan 2003. Potential of safflower to mitigate nitrate leaching. In abstracts (CD format) of the *Annual Meeting of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America*, November 2-6, 2003, Denver, USA.

5. Master's Theses

1. Abdo, Carla. 2004. Identification and use of *Beauveria* sp. against *Cephalcia tannourinensis*. Advisor: Dr. N. S. Kawar
2. Zeaiter, Abdallah. 2004. Screening selected indigenous plants against *Bemisia tabaci* and chemical isolation of bioactive fractions. Advisor: Dr. E. Abou Fakhr Hammad.

IV. PROFESSIONAL ACTIVITIES AND SERVICES

1. Scientific Meetings and Conferences

Dr. Y. Abou Jawdeh participated in the following conferences and meetings:

- a) Participated in the *International Tomato Disease Symposium* held in Orlando, Florida, USA, June 20-27, 2004.
- b) Participated in the *Crete Workshop and Meetings of the Virus Indexing and Tomato Breeding Project* held in Crete, Greece, July 11 to 24, 2004.
- c) Attended the *APS Annual Meeting* held in Anaheim, California, USA, July 31 to August 4, 2004.

Dr. R. Baalbaki participated in the IX Jordan Science Week: Role of Biotechnology in Development and presented a paper on "Salinity Tolerant Plants", October 6-8, 2003.

Dr. M. Haidar attended the 4th *International Weed Science Congress-IWSC* and presented a paper entitled: "Blue light induced changes in inositol 1,4,5-trisphosphate in dodder (*cuscuta campestris*) seedlings" held in Durban, South Africa, June 20 to 24, 2004.

Dr. A.T. Saad participated in the following conferences and meetings:

- a) Participated in the "Third Regulatory Harmonization Workshop for CropLife AF/ME" held in Beirut, Lebanon, October 21-22, 2003.
- b) Attended and chaired one of the sessions of the workshop on Molecular Diagnostics of Plant Pathogens held in Lamezia, Italy, November 20-23, 2003.
- c) Attended the "Workshop on Major Bacterial and Viral Diseases of Potatoes in Lebanon and Syria", sponsored by the Higher Council of cooperation between Lebanon and Syria, held at LARI, Tel Amara, Lebanon, June 10, 2004.
- d) Attended the *APS Annual Meeting*, held in Anaheim, California, USA, July 31 to August 4, 2004.

Dr. S.K. Yau participated in the Annual Meeting of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America and presented a paper entitled “Potential of safflower to mitigate nitrate leaching”, November 2-6, 2003, Denver, USA.

2. Workshops

Dr. Y. Abou Jawdeh attended the Lamezia workshop on Molecular Diagnostics of Plant Pathogens in Italy and presented a paper entitled: “Serological detection of Prune dwarf virus using polyclonal antiserum to recombinant coat protein”. November 20-23, 2003.

Dr. S. Talhouk organized the following local workshops:

1. “Prospects for the Identification and Conservation of Biodiversity Rich Areas in Lebanon”, Rotana Hotel, Gefinor, Beirut, February 26, 2004.
2. “Introduction of the Cartagena Protocol on Biosafety” for Development of the National Biosafety Framework for Lebanon Project, Rotana Hotel, Gefinor, Beirut, April 23, 2004.
3. “2nd National Workshop to Review the Findings of the Surveys, Identification of Gaps, Needs & Priorities” College Hall, AUB, July 30, 2004.
4. “Cultivation and production of medicinal and aromatic herbs” Agricultural Research and Education Center (AREC), Bekaa, July 26, 2004.

Dr. S. K. Yau organized a small workshop in Deir Ahmar area on “The Essence of Growing Safflower”. November 2003.

3. Miscellaneous Services

Dr. R. Baalbaki attended a coordination and planning meeting at EARTH University in Costa Rica to evaluate the joint internship program between Earth university and AUB. April 12 to 17, 2004.

Dr. Y. Abou Jawdeh participated in several farmers-training lectures on IPM at Yammouneh and El-Shouf.

Dr. A. T. Saad lectured on “Fungal, Bacterial, and Non-Parasitic Diseases of Stone and Pome Fruits” as part of a graduate program entitled “Integrated Pest Management of Mediterranean Fruit Crops” at the International Center for Advanced Mediterranean Agronomic studies (ICAMAS) in Italy, April 26-29, 2004.

Dr. A. T. Saad lectured on “Management of Diseases of Pome and Stone Fruits in the Bekaa Area” to growers and students of Nebras Technical Agriculture School upon an invitation by Nebras Agriculture School on September 22, 2004.

Dr. S. K. Yau served as curator of the gene bank at AREC as of October 2003.

AGRICULTURAL RESEARCH AND EDUCATION CENTER

2003-2004

Mohamad T. Farran, Director

Teaching And Research

- Provided assistance to faculty members currently engaged in research and teaching at AREC, as requested.
- AGR III students participated in seedbed preparation and planted the winter crops. (Nov.16, 2003).
- AGRL III and LDMG III students arrived at AREC on March 21, 2004 to complete the spring and summer semesters.
- Spring and summer semesters started and ended as scheduled.
- Research trials on organic vegetables and free range table bird production supported by Green Line Association.
- Vegetable variety trials, supported by UNIFERT s.a.l.

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).

Organic Vegetable and Free Range Poultry Production

- The "Healthy Basket" was provided with organic vegetables and free range table birds all produced at AREC.

Completed Projects:

1. Power Plant Project (AREC Generator room)
2. Construction of Cold Storage and Seed Bank
3. Computer Network project
4. Face lifting kitchen, cafeteria, and library area
5. Renovated and furnished cafeteria with new kitchen equipment
6. Furnished Seed Bank with necessary laboratory items.
7. Aluminum installation of windows and doors of AMD, AWD, Clinic, Police station, Library and Director's Residence.
8. Fitness Room
9. Glass house (Phytothrone).
10. Asphalting roads
11. Incinerator cover

Ongoing Projects

- Continued work on rehabilitation of creamery

New AREC Staff

- Mr. Ziad Jaber appointed as full-time Research Assistant in AREC Administration, on Nov. 1, 2003.
- Mr. Shadi Safar appointed as Livestock & Poultry Production supervisor, on Feb.4, 2004.

Activities

- AREC students held the Aggie Olympics day on May 6, 2004. Present were Dean Dagher and many FAFS faculty and staff members with their families.
- FAFS/UNIFERT Vegetable Trial Field Days. August 16 and 18, 2004.
- Sweet Corn Day. Aug. 22, 2004. Dean Dagher, Dr. Jala Makhzoumi, and AREC Director Dr. M. T. Farran presented awards to four LDMG III students, for the first prize award in LDMG 2004, student project.

Visitors

- Dean Dagher on regular basis.
- “New Students Orientation Program” in Fall 2003.
- Lebanese Scouts Association
- Several Faculty and old graduates visited AREC on different dates.
- Students from Batroun and Abdeh vocational schools of Agriculture.
- Engineer Wajih Jirdi, from Lebanese general public works ministry, visited the sight of Sbat flood and observed damages.
- ASHA representative, Mrs. Sheila Bernson inspected seed bank equipment, computers and computer network, and other movable equipment while under operation (silage wagon and potato planter)
- AUB President Dr. John Waterbury, Dean Dagher, and Trustee member Dr. N. Shartouni, Feb. 8, 2004.
- Students of Environmental Health Dept.
- Forty AUB Architecture students.
- Italian dairy product specialists, with Mr. Bassil Khatib visited Creamery and other facilities.
- Najah Jaroush (LDMG) Dept. with a Japanese group.
- Dr. & Mrs. Keith Frayn, Oxford University UK.
- Children of AANA Program Alumni.
- Handicapped students (Lebanese Welfare Association for Handicapped).
- Ninety ACS students (grade 9) visited AREC on September 16, 17, 2004.
- Two hundred fifty students of the “New Students Orientation Program” are expected to visit AREC on September 25, 2004.

Workshops:

- Forage Production Workshop to Lebanese farmers (April 7 & 8, May 12 & 13, and June 16 & 17, 2004).
- Distribution certificate to farmers attended forages Production workshops in the presence of USA Ambassador Battle, Provost Heath, Miss Catherine Rosenburger (Mercy Corps.) and Dean Dagher (April 16, 2004).
- Training Courses for AREC Employees on fire Protection & Safety, and Electrical Safety (April 29 & 30, 2004).
- HIV/AIDS by World Vision on Sept.10, 11, and 12, with 20 participants.

Miscellaneous

- Assigned and furnished a guest house in Director's Residence for faculty members.
- Furnished a fitness room for students.
- Connected AREC with Internet.
- Dr. Abbas Lafta was assigned duplex III West to reside at AREC.
- Sold culled animals at different dates
- The Director invited AREC Employees and workers for an Iftar dinner (Nov. 12, 2003).
- Dr. Najib Malek (IBSAR) lectured on Production of Medicinal and Perfume Plants.
- Video taped livestock area (Gazy Abdul Baki & Carol Mansour).
- Executed LDMG III 2004 student project design in D52 residential area.
- Planted ornamental trees, roses & shrubs in the new Landscape project area.

INTER-FACULTY ENVIRONMENTAL SCIENCES PROGRAM

Ecosystem Management

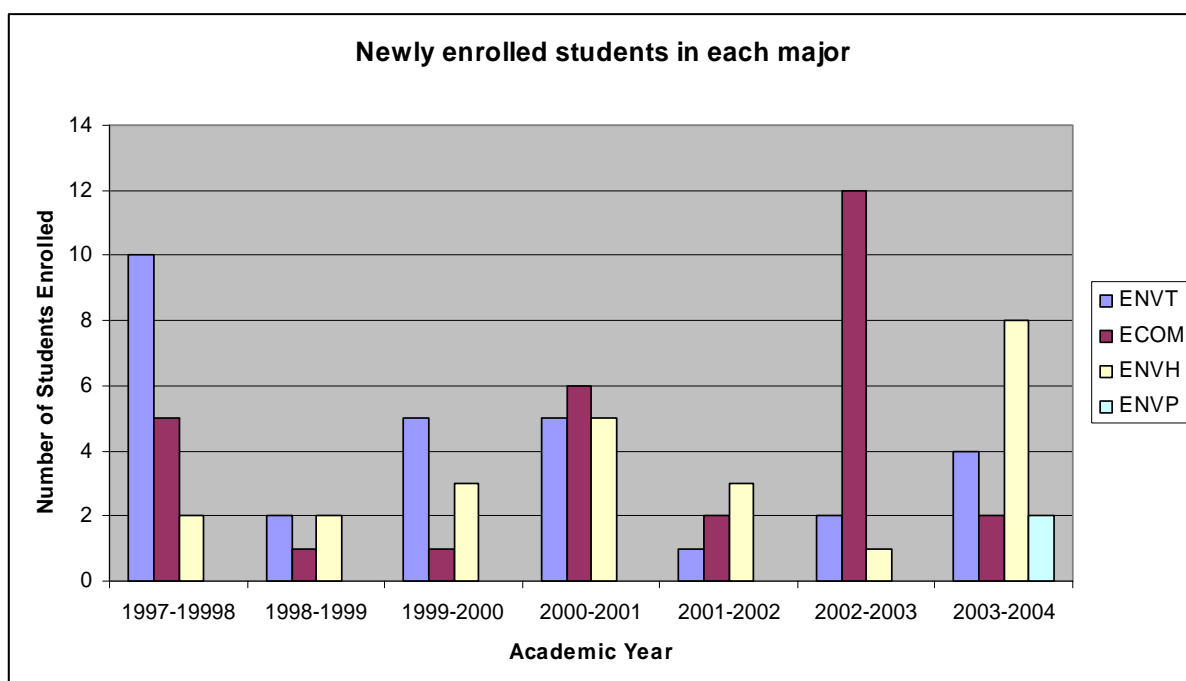
2003-2004

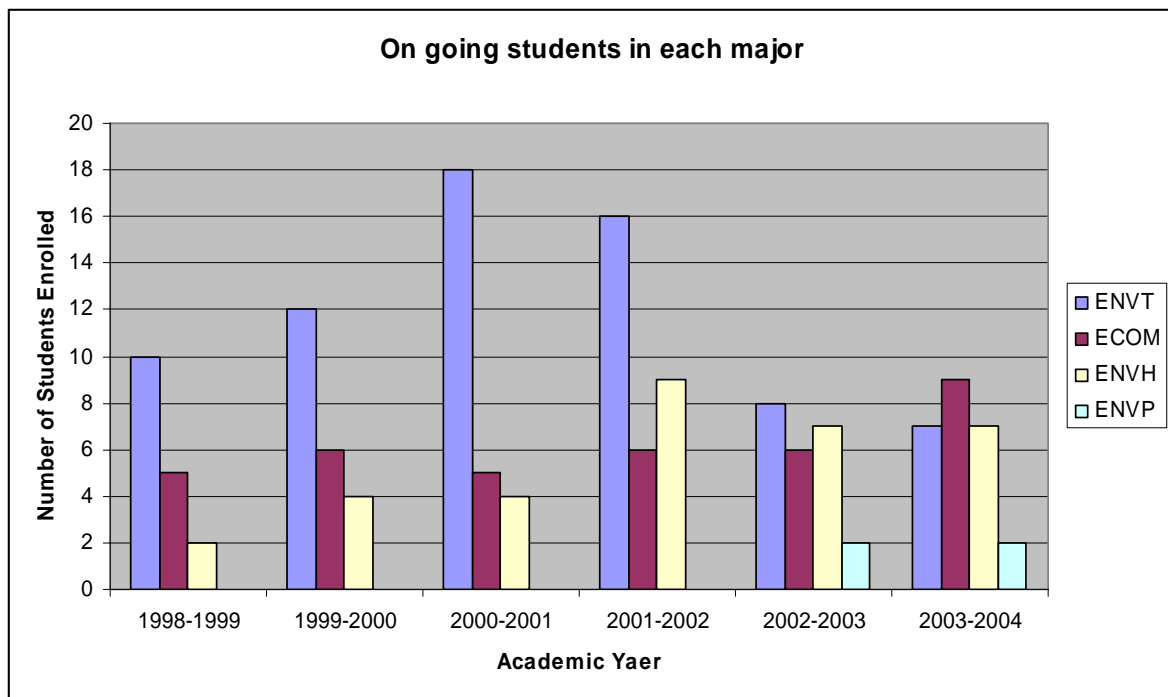
R. Zurayk - Coordinator

The present annual report covers the academic year 2003-2004, and addresses the activities and achievements of the Interfaculty Graduate Environmental Sciences Program. The current program committee is composed of: Drs H. Muhtasib (FAS), M. El-Fadel (FEA), Dr. I. Nuwayhid (FHS), Dr. G. Zaatari (FM), Dr. A. Feghali (Business School) and R. Zurayk (FAFS, Program Director).

I. ENROLLMENT

A total of thirty nine students were enrolled during 2003-2004 in the four major of IGESP: Environmental Technology (ENVT), Environmental Health (ENVH), Ecosystem Management (ECOM) and Environmental Policy Planning (ENVP). Among these students, sixteen were newly enrolled; the others were continuing. Seven students graduated this year (two students from ECOM, one from ENVT one from ENVP and three from ENVH).





Enrollment is stabilizing around forty students. So far, thirty three students have submitted their applications for 2003-2004 and twenty six were accepted.

II. COURSES OFFERED AND STUDENTS ENROLLMENT

A total of nine courses were taught, covering all aspects of Environmental Sciences (Appendix 1).

III. YEARLY PROGRAM ASSESSMENT

a- Students' interviews

In order to evaluate the student's response to the program, and to obtain a holistic view of our strengths and weaknesses, ten currently enrolled students in the program were interviewed. The interview took the form of an informal exchange centered on a series of issues. Their response is summarized below:

All IGESP students have **no regrets** joining the program.

From the student's point of view, the program has strong and weak points:

*Strong points:

- Interfaculty program: we would get exposed to a lot of disciplines, different teachers, different students,...
- Multidisciplinary approach of courses
- It covers, through the core courses, the major topics related to environmental management
- Flexible
- The program includes a lot of research
- The courses address real life through the application of projects

***Weak points:**

- No specialization
- Not enough practical work
- Too much diversity in courses
- Not enough elective courses options

In order to improve the program and change it positively, some important things could be done:

- More practical work in core courses (Labs, field trips,..)
- Proper guidance to students must be offered for their thesis: topic / advisor / committee / comprehensive and defense.
- Provide specific administrative requirements or guidelines
- Introduce more policy core courses into ENVP major.
- Involve members from PSPA in ENVP because they have solid background about policy formulation, administration and politics.

b- Exit questionnaires

The “Learning Experience Form” was administered to the graduating students of IGESP in order to assess the educational experience of the students in the program. The response of the graduating students is summarized below:

The response matched that of the oral interviews, the majority of students find that the objectives of the program are clear, that it is well organized and academically adequate. Teaching was found to be innovative and encouraged self-learning. Cheating is minimal.

The best learning experience in the program are:

- Research work and field surveys
- Offering wide number and varieties of elective courses

While the worst learning experience are:

- Emphasis on the new topics through seminars
- Need environmental economic courses
- Organization of the Toxicology course

The most important change suggested to teaching practices in the program is to include more case studies and field trips

IV. GRANTS AND CONTRACTS

Submitted Grants				
Contribution of NO ₂ Heterogeneous Hydrolysis to HONO Concentration with Respect to Meteorological Variations	US National Science Foundation (NSF)	04-05	N. Saliba M. El-Fadel	240,000

Regional Solid Management Project in METAP Mashreq & Maghreb Countries/National Activity in Lebanon: Legal Framework for Solid Waste Management in Lebanon	World Bank	04-05	M. El-Fadel	120,000
Fuel policy impacts on health in urban areas	US National Institute of Health (NIH)	03-05	I. Nuwaihid M. El-Fadel D. Jamali R. Darwish	216,000
Pending Grants				
Anaerobic digestion of the organic fraction of municipal solid waste	National Council for Scientific Research	04-05	M. El-Fadel N. Darwish S. Harakeh	10,000
Understanding Water, Understanding Health: The Case of Bebnine	IDRC	05-06	I. Nuwayhid M. El-Fadel R. Zurayk D. Jamali R. Habib	340,000
Environmental Assessment Beirut Emerging Technology Zone Project (BETZ), Damour, Chouf	Investment Development Authority of Lebanon (IDAL)	04-05	M. El-Fadel	56,600
Funded Grants				
Identifying of the Contribution and Barriers of Renewable Energy Technologies (RETs) to Poverty Alleviation in the Region Jordan – Lebanon – Syria	Global Network for Sustainable Development (GNESD)	03-04	N. Ghaddar M. El-Fadel R. Chedid T. Mezher F. Moukalled	25,000
Health implications of diesel banning policy	World Health Organization	03-04	A. El-Zein I. Nuwayhid M. El-Fadel	4,500
Water quality of bottled water in Lebanon	Consumers Lebanon	03-04	M. El-Fadel	12,000
Sustainable waste management in Lebanese rural areas	CHF International	03-06	M. El-Fadel	162,000
High performance earthen landfill covers for arid and semi-arid regions	National Council for Scientific Research	03-04	S. Sadek M. El-Fadel M. Mabsout	6,500

V. MEETINGS, WORKSHOPS AND ACADEMIC ACTIVITIES

Selected Workshops

1. Kazopoulo M., Kaysi, I., and El-Fadel M. Implementing an I/M program: A stated-preference approach. *10th World Conference on Transport Research*, Istanbul, Turkey, July 4-8, 2004.
2. Kaysi I., Shazbak S. and El-Fadel M. Traveler information provision for incident management: Implications for vehicle emissions, *Transportation Research Board*, Washington, DC, January 7-11, 2004.
3. Massoud M.A., El-Fadel M., Scrimshaw M.D., and Lester J.N. Screening Impact Assessment of Land Use on Abou Ali River and its Coastal Zone in North Lebanon. *6th Inter-Regional Conference on Environment-Water "Land and Water Use Planning and Management"*, Albacete, Spain, September 3-5, 2003, paper reference number E-82.
4. Chedid R., Ghaddar N., Chaaban F., El-Fadel M., Mezher T., and Moukalled F. A Sub-Regional Outlook of Renewable Energy Potential: The Case of Jordan, Syria and Lebanon. *International Conference for Renewable Energies*, Bonn, June 1-4, 2004.
5. Habib R., Nuwayhid I., El-Fadel M., Zurayk R., and Kabakian V. Water Quality in the Coastal Zone of Bebnine: A Case Study on Successful Community Participation. *Coastal Zone Asia Pacific Conference 2004*, Brisbane Australia, 5-9 September 2004.

Selected Publications

1. Kazopoulo M., El-Fadel M., and Kaysi I. Emission standards development for an I/M program. In *Air Pollution XII*, (Brebbia C.A. ed.) WIT Press, Southampton, UK, 475-484, 2004.
2. El-Fadel M., Bou Fakherldeen R., Maroun R. Diesel engine policy banning vs. PM levels in urban areas: Socio-economic implications, *Environmental Studies Part A*, 61, 4, 427-436, 2004.
3. Elfadl K. and El-Fadel M. Comparative assessment of EIA systems in MENA countries: Challenges and prospects. *Environmental Impact Assessment Review*, 24, 6, 553-593, 2004.
4. Semerjian L., El-Fadel M., Zurayk R., and Nuwayhid I. An interdisciplinary approach to environmental education, *ASCE Professional Issues in Engineering Education and Practice*, 173-181, 130, 3, 2004.
5. Hashisho Z., and El-Fadel M. Impacts of traffic-induced lead emissions on air, soil and blood lead levels in Beirut, *Journal of Environmental Monitoring and Assessment*, 93/1-3, 185-202, 2004.
6. Abou Najm M. and El-Fadel M. Computer-based interface for an LP regional integrated solid waste management optimization model. *Environmental Modelling & Software*, 19, 12, 1151-1164, 2003.
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VI. APPENDIX 1: COURSES TAUGHT AND STUDENT ENROLLMENT

The following table shows the courses that were offered in the IGESP by all the four faculties in 2003-2004. The number of students enrolled in the IGESP is expressed as a fraction of the total number of students attending each course. The number of students enrolled in the courses from each major is indicated in the center column and the faculty members that taught each course are listed in the last column.

Course Code	Course description	# of Environment Students/ total # of students	Faculty Members
ENSC 600	Air Pollution and Control I	5/10 (1 ECOM- 4 ENVT)	Dr. M. El Fadel
ENSC 630	Natural Resources Management	15/17 (3 ENVT-2 ECOM- 7 ENVH-3 ENVP)	Dr. R. Zurayk
ENSC 631	Agricultural Pollution and Control	5/6 (1 ECOM-1 ENVH- 1 ENVP)	Dr. N. Kawar, Dr. I. Bashour
ENSC 640	Toxicology and Environmental Health Project	17/18 (3 ECOM- 4 ENVT- 8 ENVH-2 ENVP)	Dr. I. Nuwayhid & Dr. R. Habib
ENSC 650	Environmental Policy	15/18 (3 ECOM- 6 ENVT- 5 ENVH-1ENVP)	Dr. K. Makdisi
ENSC 652	Environmental Impact Assessment	8/11 (4 ECOM- 4 ENVT)	Dr. M. El Fadel
ENSC 660	Environmental Technology	12/12 (4 ECOM- 6 ENVH- 2 ENVT)	Dr. M. El Fadel
ENSC 690	Seminar in Environmental Sciences	40	Dr. M. El Fadel
ENSC 661	Population and Community Ecology (Biol 363)	3/8 (2 ECOM- 1 ENVH)	Dr. H. Mohtaseb & Dr. K. Knio

SECTION C
REPORTS OF COMMITTEES

THE ADMINISTRATIVE COMMITTEE

2003-2004

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 Sciences Department.

The Committee held seven meetings during the academic year 2003-2004.

During the year, routine business was handled by the committee which included appointments of departmental graduate assistants, modifying space allocation to the different departments and assignment of offices to new faculty. The Committee also advised the Dean on budget related issues especially on major equipment and various matters related to AREC.

Prepared by

Wafa Khoury
Secretary

THE ADVISORY COMMITTEE

2003-2004

Dr. E. Barbour, professor of ANSC Dept., Dr. I. Toufeili, professor of NFSC Dept., Dr. Zurayk, professor of LWRS Dept., and Dr. S.K. Yau, professor of PLSC Dept. joined the Committee as new members. Dr. Yau was elected as the new secretary. During the academic year, the Committee held 12 meetings and voted on 66 motions. The important issue that was discussed in length was: policy and procedures for appointment, reappointment, promotion and tenure. The committee introduced a more diligent procedure for renewal of contracts which included a more quantitative evaluation of each case. Three faculty applications for promotion from Associate to Full professor were studied by the Committee and the application of each of the three faculty members was considered separately and at great length.

**Prepared by
S.K. Yau**

THE ACADEMIC & CURRICULUM COMMITTEE

2003-2004

The members of the Academic and Curriculum Committee for the year 2003-2004 were: Dean Dagher (Chairperson), Drs. Abou Fakhr Hammad (Undergraduate Agr/Coordinator), Bashour, Farajalla, Hamadeh, Hwalla , Makhzoumi (Undergraduate LD/Coordinator), Obeid (Undergraduate ND/Coordinator), Saad, Tannous (Undergraduate FSM/Coordinator), SRC and Registrar's representatives.

The Committee met 12 times during the period of October 1, 2003 until September 30, 2004, and voted on 171 items. The Committee members discussed course offerings, recommending students for graduation, to graduate students with distinction and high distinction, transfer of credits, transfer students from one major to another, 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. 68 students from all undergraduate programs were placed on probation.
2. 27 students from all undergraduate programs were continued on probation.
3. 1 student from AGR was dismissed.
4. 30 students from all undergraduate programs were removed from probation.
5. 143 students from all undergraduate programs were placed on the Dean's Honor List.

B. AREC Program

30 students were eligible to go to AREC. 12 from Agriculture and 18 from Landscape.

C. Second B.Sc. in Nutrition

The Committee approved the recommendation of the NFSC Department to include in the AUB catalogue that 15 credits of the required 51 credits can be of transferred courses. Students will be required to complete 3 semesters of residency in the ND program.

D. B.S. in Veterinary Science

The Committee approved and recommended to the Faculty the new B.Sc. Veterinary Science program as modified by the ANSC department.

E. New Bioethics and Environment Course

The Committee discussed the offering of a new bioethics and environment course. It was approved that the course be offered as long as it is incorporated within the existing courses in the Philosophy Department.

F. A 3-Year PLSC Degree

The Committee discussed the proposed three year B.Sc. degree in Plant Science. It was indicated that this would be impossible at such a time and the enrolment in such a program will be very limited.

G. Issue Arising in the Landscape Program

The Landscape Coordinator raised the issue of landscape students of socio-economic and humanity background failing Chem 200. Students were requesting to be exempted from it. The Committee indicated that this is an admission requirement and students cannot be exempted.

H. Humanity Electives

The Committee approved LDEM 201 (Landscape History) and LDEM 260 (Current Issues in Landscape Design) as possible humanity courses for FAFS students.

I. New Courses in Organic Farming

The Committee approved the offering of two new courses in organic farming namely: "Living Organic (3 cr.) as a science elective for non-FAFS students and "Theory and Practice of Organic Farming Systems (3 cr.) as an elective for FAFS students effective fall 2004/05.

J. Minor in ND & FSM

The Committee approved the recommendation of the NFSC department to include in the AUB catalogue that the Department of Nutrition and Food Science evaluates all applicants for a minor and makes the recommendation to the ACC. Students are eligible to be considered for a minor in either major after completing 24 credits hours in his/her major with a cumulative average of 75.

K. Changes in AUB Catalogue

The Committee discussed the changes to be made in the AUB catalogue in the curriculum section. It was approved that LWRS 215 (3 cr.) be offered in the first semester instead of the second and ENGL 204 (3 cr.) be offered in the second semester instead of the first semester as was previously indicated in the curriculum section.

L. Recommendation for Graduation

The Committee recommended to the Faculty 12 students for the Degree of B.Sc in Agriculture and Diploma of Ingenieur Agricole, 9 students for the Degree of B.Sc. in Landscape Design and Eco-Management and Diploma of Ingenieur Agricole, 1 student for the Degree of B.Sc. in Food Science and Management and 45 students for the Degree of B.Sc in Nutrition and Dietetics.

**Prepared by
Rabia Koubayssi**

THE ADMISSIONS COMMITTEE

2003-2004

The members of the Admissions Committee during the period of 2003-2004 were the following: Dr. Nuhad Daghir (Chairman), Drs. Elie Barbour (Secretary), Riad Baalbaki, Malek Batal, and Mustapha Haidar. This Committee met 10 times and mostly in the presence of the Director and Associate Director of admission, Mr. Kassem Jouni (SRC), 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 to cohere to an admission criterion based on interactive choice-composite score and not solely on composite score.
2. Dean Daghir informed the invited persons and members of the Admissions Committee of the criteria for early admissions based on Verbal and Math SAT score of ≥ 1200 and a class rank in the upper 40%.
3. Agreed upon to accept students to AGR, LDEM and FSMT for fall 2004-2005 with a composite score of ≥ 450 , and NTDT with a composite score of ≥ 550 .
4. Agreed upon to consider all petitions except those applied to three Faculties other than FAFS
5. Agreed on accepting transfer students on the basis of completion of two semesters (≥ 24 credits) or more within FAFS or at another Faculty in or outside AUB with a cumulative average of ≥ 70 or GPA ≥ 3.0 .
6. 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 Sarah Dabboussi to transfer her admission from Landscape Design and Eco-Management to Food Science and Management.
 2. Petition of Mr. Nabih El Hussein to postpone his acceptance in agriculture from fall 2003-04 to spring 2004.
 3. Petition of Miss Hawraa Mortada to consider her January 2004 SAT score in evaluation of her application.
- 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	353	100	38	29
UG AGRI	259	192*	23	13
UG LDEM	96	91*	4	2
UG FSMT	96	130*	10	10

* Students accepted based on 1st choice and 2nd choice (beside the NUTR).

**Prepared by
Tharwat Haddad**

THE GRADUATE STUDIES COMMITTEE

2003-2004

The members of the Graduate Studies Committee for the year 2003-04 were: Dean Dagher (Chairman), Drs. Baalbaki (Graduate Coordinator), Obeid, Sleiman, 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 eight meetings during 2003-2004 and voted on 96 items. Actions taken during these meetings included the following:

1. Accepted 64 applicants for the first semester, 2004-2005. Twelve applicants were not accepted. Of the 64 accepted applicants 29 registered for the first semester. Accepted 16 applicants for the second semester, 2003-2004 and 7 registered. Four applicants were not accepted.
2. Approved the deletion of some of the seven Forms that graduate students were required to complete before graduating. Some of the forms were combined together; approve to have three forms instead of the previous seven (new forms enclosed).
3. Approved the program of study and thesis titles of 40 students.
4. One student was removed from probation effective September 2003 and two students were removed from probation effective February 2004.
5. Acted on a number of petitions submitted by students.
6. Recommended awarding the M.Sc. degree to 7 students effective October 2003, and 7 students effective July 2004 in the various majors.
7. Two new graduate courses were approved by the Committee namely, AGRL 302 Scientific Communication and NFSC 312 Sports Nutrition.
8. The new proposed M.Sc. Rural Community Development Program was approved and recommended to the Faculty.
9. The Committee discussed the issue concerning Ph.D. programs and suggested that PLSC department prepare and present a Ph.D. proposal. The Nutrition department submitted such a program which was supposed to start by academic year 2004-05. However, this would not take place because of the need of further evaluation and due to the priority order among the different Faculties.
10. Approved the deletion of one seminar (396) in all departments and have 395 remain as one credit.

Prepared by
Rabia Koubayssi

AMERICAN UNIVERSITY OF BEIRUT
FACULTY OF AGRICULTURAL AND FOOD SCIENCES

FORM 1

**FULL PROGRAM OF GRADUATE STUDY
TO BE COMPLETED BY THE END OF THE FIRST YEAR**

Name of Student: _____
(First Name) (Family Name) (Student #)

Major: _____

Thesis
Non-Thesis

Conditions of Acceptance: _____

Date of Commencing Graduate Work: _____

Expected Date of Graduation: _____

Credits

1. Total credits in prerequisites: _____ credits
2. Total credits 300 and above: _____ credits
3. Total credits to be taken: _____ credits

Supervisory Committee

	Name	Position/Faculty/Dept	Approval Signature
1.	_____ (Advisor)	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____

Dept. Chairperson: _____

Date Submitted: _____

Date Approved by the Graduate Studies Committee: _____

Thesis students complete **part I** only, non-thesis students complete **part II** only.

- I.
 1. Thesis title:
 2. Objectives of the study:
 3. Brief summary of intended methodology:

- II.
 1. Project title:
 2. Brief summary of intended work:

Coordinator of Graduate
Studies

Distribution: Advisor
Chairperson
Student
File

THE LIBRARY COMMITTEE

2003-2004

The Library committee held only one meeting on June 4, 2004. The meeting was attended by Drs.: Abou Jawdah Y. (chairman), Baalbaki R., Batal M., Bashur I. and by Mr. Rouhana Joseph (librarian) and Mr. Karim Jeha (FDPU).

During the meeting the chairman briefed the committee on the history of the library renovation project. He informed the committee that during a meeting of the University Library Committee the amount of \$30,000 has been suggested and approved in the presence of the Provost for the renovation of the Science and Agricultural Library entrance. Mr. Karim Jeha, Architect with FDPU in charge of overseeing the renovation, presented to the committee the final plans that had been already approved by Mrs. Bikhazi, the university librarian. The approved plans are to be implemented starting at the end of the spring term and construction is expected to last one month. Mr. Jeha had a discussion with Mr. Rouhana concerning the placement of the photocopiers and no changes were brought to the plans. Mr. Jeha made it clear that the current plans are the best that can be achieved at this point and that there was no room for major changes.

Then, the chairman presented the budget for purchasing of books and encouraged departments to spend the remaining budget. He later explained that the budget for the purchase of new periodicals is very limited. When new periodicals are needed, departments are encouraged to cancel redundant subscriptions (especially for those journals that can be accessed on the Web) and replace them with the new needed ones.

**Prepared by
Y. Abou-Jawdah**

RESEARCH COMMITTEE

2003-2004

MEMBERSHIP OF THE COMMITTEE

Dr. Imad Toufeili (Chairman).

Dr. Isam Bashour (Secretary).

Dr. Ragy Darwish

Dr. Omar Obeid.

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. The Committee gave priority to proposals submitted by new faculty members and assistant professors, and allotted 40% and 60% of the Proposals' total scores to external reviewers and Committee members, respectively. The proposals were classified and ranked, on the basis of the aforementioned criteria, 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

Investigator	Co-investigator	Title
<i>High Priority</i>		
1. Kassaiify, Z	Toufeili, I.	The inhibitory effects of different essential oil formulations in meat and poultry traditional marinades against food borne pathogens (New)
2. Lafta, A.	Nimah, M. Bashour, I.	Evaluation of yield and post harvest quality of potatoes exposed to water stress (Renewal)
3. Abou-Jawdah, Y.	Abou-Fakhr Hammad, E. Abdul-Nour, H.	Diagnosis of mollicutes infecting fruit trees in Lebanon (Renewal)
4. Hwalla, N.	Obeid, O. Azar, S.	Effect of macronutrient composition of meals on postprandial PYY response of healthy subjects (New)
5. Sidahmed, M.		The design and testing of a lentil harvester for commercially grown

		lentils in West Asia and North Africa (New)
6. Haidar, M.		Pomace and amurca as an organic approach for <i>Orobanche ramosa</i> control in potato and tomato (New)
7. Toufeili, I.	Ghaddar, T.	Roles of asparagine, glutamine and reducing sugars and baking time/ temperature in the formation of acrylamide in Arabic bread (New)
8. Yau, S.K.	Nimah, M. Bashour, I.	Agronomic studies on safflower. II.N fertilization and supplementary irrigation (Renewal)
9. Nimah, M.	Toufeili, I. Bashour, I. Abou-Fakhr Hammad, E.	Olive yield as affected by supplemental irrigation and split fertilization and pest control (Renewal)
Moderate Priority		
10. Makhzoumi, J.		Garden landscapes in Beirut: The designed and the incidental (New)
11. Bashour, I.	Toufeili, I.	Status of selenium in Lebanese soils, grains, vegetables and fruits (Renewal)
12. Hamadeh, S.	Barbour, E.	The effect of vitamin C supplementation on some physiological and immunological indicators in water-stressed Awassi sheep (New)
13. Batal, M.	Hwalla, N. Afifi Soweid, R.	Complementary feeding in Lebanon: Determinants and nutritional adequacy (New)
14. Obeid, O.	Hwalla, N. Azar, S.	Postprandial ghrelin status following macronutrient manipulation of meals in adult females (New)
15. Farajallah, N.	Bashour, I. Kawar, N. Nimah, M.	Characterizing and modeling solute movement in soil under field conditions (New)
16. Barbour, E.	Farran, M. Sleiman, F. Hamadeh, S.	Molecular differentiation of <i>Mycoplasma gallisepticum</i> field strains using random amplified polymorphic DNA analysis (New)

17. Sleiman, F.		The potential use of food by-products as feed for ruminants (Renewal)
Low Priority		
18. Baalbaki, R.		Hydrothermal time models of germination for wild herbaceous species (New)

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

INVESTIGATOR(S)	Title	Funding Agency^a	Budget
Hamadeh, S., Abi-Said, M.	Conservation of striped hyaena (<i>Hyaena hyaena syriaca</i>) in Lebanon: A threatened and reviled scavenger in a human-dominated landscape	LNCSR	9,300,000 L.L.
Hwalla, N., Sibai, A. Obeid, O.	National nutritional micronutrient survey: Assessment of anemia and antioxidant micronutrient status of females in Lebanon	LNCSR	16,500,000 L.L.
Haidar, M., Bashour, I., Lafta, A., Nimah, M.	Fertigation with phosphoric acid (H_3PO_4) for <i>Orobanche ramosa</i> control in potato	LNCSR	11,500,000 L.L.
Batal, M., Hwalla, N., Afifi Soweid, R.	Complementary feeding in Lebanon: Determinants and nutritional adequacy	LNCSR	15,000,000 L.L.
Nimah, M., Yau, S. K., Toufeili, I.	Introduction of saffron to the Bekaa. I. Selection and agronomic studies	LNCSR	11,000,000 L.L.
Farran, M., Usayran, N. Barbour, G. Uwayjan, M.	Utilization of locally produced barley and oilseed meals and feed additives in poultry diets	LNCSR	14,000,000 L.L.
Barbour, E., Talhouk, R., Hamadeh, S., Farran, M.	Relationship of water deprivation-stress to immunity in Awassi ewes of Lebanon	LNCSR	\$5,400

Abou-Jawdah, Y., Nasri Kawar, N., Kfoury, L.	Identification and evaluation of local strains of fungi and viruses as biological control agents of pests of major economic significance to Lebanese agriculture	LNCSR	24,000,000 L.L
Obeid, O., Hwalla, N., Azar, A.	Postprandial PYY and Ghrelin status following macronutrient manipulation of meals in healthy subjects	LNCSR	15,500,000 L.L
Baalbaki, R., Petit, R.	Variabilité génétique des populations de pin parasol du Liban et comparaison avec le reste de l'aire de distribution de l'espèce	CEDRE	€ 26,275.-
Yau, S.K., Haidar, M.	Extension of growing safflower in northern Bekaa and south Lebanon	USAID	\$391,620.-
Kawar, N.	Integrated management of cedar forests in Lebanon in cooperation with other Mediterranean countries	UNEP/GEF	\$530,500

a. CEDRE: Le Comité Franco-Libanais pour L'Evaluation et le Development de la Recherche.

LNCSR: Lebanese National Council for Scientific Research.

UNEP/GEF: United Nations Environmental Programme/Global Environmental Fund

USAID: United State Agency for International Development.

**Prepared by
Imad Toufeili**

THE STUDENT AFFAIRS COMMITTEE

2003-2004

The Student Affairs Committee (SAC) met several times during the 2003-2004 academic year. The following are the major actions:

1. The SAC reviewed past procedures followed in awarding the Sutherland award. The SAC established new written procedures that were forwarded to the Dean's office.
2. The SAC established written procedures for the new Abdul Hadi Debs award, and forwarded those procedures to the Dean's office.
3. The SAC solicited faculty nominations for the Sutherland and Debs awards. Six nominees for the Sutherland and three for the Debs awards were considered, and the SAC recommended that Ms. Rima El-Awar be given the Sutherland award, and Ms. Hala Hourani be given the Debs award.
4. The SAC voted to give Mr. Hagop Atamian the Joanna Haidar Award.
5. The SAC introduced a new procedure for selecting a Penrose award recipient, whereby candidates were asked to make a short presentation about their qualifications for the award. Five candidates made such presentations at a faculty meeting, one of which was selected for the Penrose award.

**Prepared by
Riad Baalbaki**