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EXECUTIVE SUMMARY

The Faculty of Agricultural and Food Sciences (FAFS) seeks ongoing knowledge advancement through research, and the research projects completed in the academic year of 2009-10 illustrate an expansion of past work in the field. The faculty was awarded a total budget of $1,693,082 distributed over 18 grants provided mainly from international and regional agencies (79%) in addition to the funds obtained from local agencies (21%).

During the academic year 2009/2010, members from the four FAFS departments accomplished a total of 52 articles that were published in reviewed regional and international journals, 60 abstracts or conference proceedings and 3 books, 7 chapters in books, with an average research output of 1.8 refereed articles and 2.5 abstracts per full time faculty member. Grants supported by Regional and International agencies were managed mainly by the AVSC department and ESDU with 3 grants totaling US $691,484, AGSC department with 7 grants totaling US $546,977, NFSC department with 6 grants totaling US $76,421, and the LDEM department with 2 grants totaling US $28,006.

In addition to cooperation within the FAFS faculty departments, FAFS faculty members worked collaboratively with researches in other AUB faculties, other Lebanese research institutes/ universities, and with international universities and research institutes.

During the academic year 22 MS theses were completed, of which 16 were submitted in the NFSC department, 4 in the AGSC department and 2 in the AVSC department.
The active engagement of FAFS Faculty members in research, services and community development culminated in the attraction of 49 active research grants and publication of 144 scientific papers, abstracts and theses. Funding for research came mainly from international and regional agencies (79%) and the remaining (21%) came from local agencies (Fig.1).

I. Research Grants

The research grants may be subdivided into three major categories:

a- Grants funded by regional and international funding agencies (research, services and research for development)
b- Locally funded research grants
c- Research grants run by FAFS faculty members with budget managed outside FAFS

The total budget of international, regional and national funding reached $1,342,888 (Table 1), but since some grants extend to more than one year, the annual running budget is estimated at $669,982. The total budget for local grants was $350,194 with an estimated annual running budget of $234,528.

1.1. Grants Funded by Regional and International Funding Agencies

Grants funded by regional and international funding agencies included research, services and research for development grants, they attracted a total budget of $1,342,888 distributed over 18 grants addressing the following topics: integrated pest management/molecular biology, economics, animal production, agribusiness/economics, microbiology, clinical nutrition and community nutrition (Table 1 and appendix I, Table A1). These grants were managed mainly by the AVSC department (3 grants, totaling $691,484), AGSC department (7 grants, totaling $546,977), NFSC department (6 grants, totaling $76,421), and the LDEM department (2 grants; $28,006) (Table 2).

<table>
<thead>
<tr>
<th>Grants (budget in USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional and International Research Funds</td>
</tr>
<tr>
<td>1,342,888</td>
</tr>
</tbody>
</table>
Figure 1. FAFS Grants 2009 - 2010 by Funding Sources

Figure 2. FAFS Grants 2009 - 2010 by Funding Sources, Corrected Based On Estimated Annual Funds
Table 2. FAFS Grants by Department/Center and Donor 2009 – 2010

<table>
<thead>
<tr>
<th>Regional and International Funds</th>
<th>Animal and Veterinary Sciences + ESDU</th>
<th>Agricultural Sciences</th>
<th>Nutrition and Food Sciences</th>
<th>Landscape Design and Ecosystem Management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>691,484</td>
<td>546,977</td>
<td>76,421</td>
<td>28,006</td>
</tr>
<tr>
<td>URB and other AUB Funded Research</td>
<td>3,750</td>
<td>20,522</td>
<td>54,551</td>
<td>-</td>
</tr>
<tr>
<td>LNCSR</td>
<td>14,333</td>
<td>24,400</td>
<td>174,667</td>
<td>-</td>
</tr>
<tr>
<td>Other Local</td>
<td>34,440</td>
<td>1,124</td>
<td>22,407</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>744,007</td>
<td>593,023</td>
<td>328,046</td>
<td>28,006</td>
</tr>
</tbody>
</table>

The major funding agencies were: the Food and Agriculture Organization (FAO); Istituto per la Cooperazione Universitaria (ICU), Italy; the United States Agency for International Development (USAID); The Association of Volunteers in International Service (AVSI), Italy; United Nations Relief and Works Agency (UNRWA); Saint Jude Children’s Research Hospital; Resource Centers on Urban Agriculture and Food security (RUAF) Foundation, Netherlands; Heinrich Boel Foundation (HBF), Germany; Gruppo di Volontariato Civile (GVC), Italy; United Nations University (UNU), EFAMOL, USA; Arab Beverage Association; The International Atomic Energy Agency (IAEA); The World Health Organization (WHO); and the Italian Corporation.

1.2. Locally Funded Research Grants

The total funds obtained from local agencies reached $350,194 and represented 21-26% (Figures 1 and 2) of the total research funds (Tables A2, A3 and A4) managed by FAFS. Local funding agencies included mainly AUB-URB (13 grants, $78,823; Table A2), the Lebanese National Council for Scientific Research (LNCSR) (8 grants, $213,400 with an estimated annual running budget of $97,733; Table A3) and other national institutions (3 grants, Young Men's Christian Association (YMCA), Global Phytoganics Ltd. (GPL) and Unifert with a $57,971 (Table A4). The LNCSR and URB contributed each about 10% of the total annual research funds (Fig. 2). The LNCSR renewed support for the Associated Research Unit for Under Nutrition and Obesity in Lebanon.

FAFS faculty members were also principal investigators or co-investigators in seven other research grants (Table A5) for which the budget was managed by institutions outside FAFS, namely by AUB Issam Fares Institute (IFI) and the Initiative for biodiversity in Arid Regions (IBSAR).
II. Publications

During the academic year 2009/2010 FAFS faculty members sustained a good publication record with 52 articles published in reviewed regional and international journals, 60 abstracts or conference proceedings and 3 books, 7 chapters in books, and 22 theses (Table 3). The four FAFS departments were actively involved in publishing (Table 4 and Appendix 2), with an average research output of 1.8 refereed articles and 2.5 abstracts per full time faculty member.

Table 3. Publications of the Faculty of Agricultural and Food Sciences for the Academic Year 2009 – 2010

<table>
<thead>
<tr>
<th>International Refereed articles</th>
<th>Abstracts, Conference Proceedings and Other Published Articles</th>
<th>Books or Chapters in Books</th>
<th>Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>52</td>
<td>60</td>
<td>10</td>
<td>22</td>
</tr>
</tbody>
</table>

Table 4. FAFS Publications by Department for the Academic Year 2009–2010*

<table>
<thead>
<tr>
<th></th>
<th>Agricultural Sciences</th>
<th>Animal and Veterinary Sciences</th>
<th>Landscape Design and Ecosystem Management</th>
<th>Nutrition and Food Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Refereed articles</td>
<td>12</td>
<td>10</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>Proceedings, abstracts &amp; Other published articles</td>
<td>32</td>
<td>4</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Books or Chapters in Books</td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Thesis</td>
<td>4</td>
<td>2</td>
<td>-</td>
<td>16</td>
</tr>
</tbody>
</table>

* including publications shared between departments; for example the apparent total number of refereed articles is 63; however the actual total number is 60, thus indicating interdepartmental cooperation
In addition to cooperation within the FAFS Faculty departments, FAFS faculty members published articles in cooperation with researchers in:

- Other AUB faculties: (Biochemistry Department & Department of Endocrinology, Faculty of Medicine; Department of Biology, Faculty of Arts and Sciences; Nutrition Program & Centers for Disease Control and Prevention, Faculty of Health Sciences.
- Other Lebanese research institutes/universities: Beirut Arab University, Lebanese Agricultural Research Institute (LARI), Lebanese University.
- Other international universities/ research institutes: Université de LaSalle Beauvais, Dohuk University, Dr. Rath Research Institute, Université de Technologie de Compiègne; Université Pierre et Marie-Curie, Science et Médecine; University of Ottawa; Department of Society, Human Development and Health, Harvard University; Dalla Lana School of Public Health University of Toronto, & the Department of Nutritional Sciences, University of Toronto; Université de Bretagne Occidentale; California Polytechnic State University, Università degli Studi, Milano; International Center for Agricultural Research in the Dry Areas (ICARDA).
Appendix 1

Detailed Service Contracts and International, Regional and Local Research Grants
<table>
<thead>
<tr>
<th>Title</th>
<th>Dept.</th>
<th>Investigator (PI)</th>
<th>Funding Agency</th>
<th>Duration (Years)</th>
<th>Budget USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil Analysis and Producing a Soil Database</td>
<td>AGSC</td>
<td>I. Bashour</td>
<td>FAO</td>
<td>1</td>
<td>26,000</td>
</tr>
<tr>
<td>Management of Cooperatives Workshop.</td>
<td>AGSC</td>
<td>M. Haidar</td>
<td>ICU</td>
<td>1</td>
<td>2,100</td>
</tr>
<tr>
<td>Development and Improvement of Local Seed Potato Production in the Middle East</td>
<td>AGSC</td>
<td>Y. Abou-Jawdah</td>
<td>USAID</td>
<td>5</td>
<td>190,000</td>
</tr>
<tr>
<td>Control of new threatening cucurbit-infecting whitefly-transmitted geminiviruses in the Middle-East</td>
<td>AGSC</td>
<td>Y. Abou-Jawdah</td>
<td>USAID</td>
<td>5</td>
<td>230,000</td>
</tr>
<tr>
<td>Integrated Pest Management in Green House Tomatoes</td>
<td>AGSC</td>
<td>Y. Abou-Jawdah</td>
<td>FAO</td>
<td>3</td>
<td>25,000</td>
</tr>
<tr>
<td>Diagnostical Analysis for Candidatus Phytolasma Phoenicium on Plant and Insect Samples.</td>
<td>AGSC</td>
<td>Y. Abou-Jawdah</td>
<td>AVSI</td>
<td>1</td>
<td>21,000</td>
</tr>
<tr>
<td>Poverty of Palestinian Refugees in Lebanon: Analysis and Targeting.</td>
<td>AGSC</td>
<td>J. Chaaban</td>
<td>UNRWA</td>
<td>1</td>
<td>52,877</td>
</tr>
<tr>
<td>Avian Influenza in Lebanon</td>
<td>AVSC</td>
<td>E. Barbour</td>
<td>Saint Jude Children’s Research Hospital</td>
<td>1</td>
<td>39,550</td>
</tr>
<tr>
<td>Urban Agriculture- From Seed to Table</td>
<td>AVSC</td>
<td>S. Hamadeh</td>
<td>RUAF</td>
<td>2</td>
<td>640,478</td>
</tr>
<tr>
<td>Hands-on-Training Workshop in the Field of Avian Influenza Diagnostics</td>
<td>AVSC</td>
<td>E. Barbour</td>
<td>Saint Jude Children’s Research Hospital</td>
<td>1</td>
<td>11,456</td>
</tr>
<tr>
<td>From Sustainable Past to Empowering Future: The Challenge of Greening Beirut.</td>
<td>LDEM</td>
<td>J. Makhzoumi</td>
<td>HBF</td>
<td>1</td>
<td>7,632</td>
</tr>
<tr>
<td>Environmental upgrading in BintJbeil district area and support to the economical revitalizing in agricultural sector</td>
<td>LDEM</td>
<td>R. Zurayk</td>
<td>GVC</td>
<td>1</td>
<td>20,374</td>
</tr>
<tr>
<td>The effect of oleic acid in combination with varied levels of fish oil on lipid profile of healthy men.</td>
<td>NFSC</td>
<td>O. Obeid</td>
<td>EFAMOL</td>
<td>1</td>
<td>34,800</td>
</tr>
<tr>
<td>Qatrah Beverage product innovation Competition 2010</td>
<td>NFSC</td>
<td>A. Olabi &amp; Z. Kassaify</td>
<td>Arab Beverage Association</td>
<td>1</td>
<td>3,000</td>
</tr>
<tr>
<td>Body Fat and its Relationship with Metabolic Syndrome Indicators in Overweigh Pre-adolescents and Adolescent Children in Lebanon.</td>
<td>NFSC</td>
<td>N. Hwalla</td>
<td>IAEA.</td>
<td>1</td>
<td>9,144</td>
</tr>
<tr>
<td>Intervention to Promote Healthy Eating and Physical Activity in Lebanese School Children.</td>
<td>NFSC</td>
<td>N. Hwalla</td>
<td>WHO</td>
<td>1</td>
<td>9,000</td>
</tr>
<tr>
<td>Interventions to Promote Healthy Eating and Physical Activity in Lebanese School Children Targeting Overweight and Obesity</td>
<td>NFSC</td>
<td>N. Hwalla</td>
<td>UNU</td>
<td>1</td>
<td>15,000</td>
</tr>
<tr>
<td>Rehabilitation of Irrigation Channels of Baalbek</td>
<td>NFSC</td>
<td>N. Hwalla</td>
<td>Italian Corporation</td>
<td>1</td>
<td>5,477</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>1,342,888</strong></td>
</tr>
<tr>
<td>Title</td>
<td>Dept.</td>
<td>Investigator (PI)</td>
<td>Funding Agency</td>
<td>Budget USD</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------</td>
<td>-------------------</td>
<td>----------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Modeling Consumer Indifference and Enthusiasm in the Market for Eco-labeled Food in Lebanon.</td>
<td>AGSC</td>
<td>A. Chalak</td>
<td>URB</td>
<td>4,122</td>
<td></td>
</tr>
<tr>
<td>Response of Orobanche Ramosa to Anhydrous Ammonia in Potato.</td>
<td>AGSC</td>
<td>I. Bashour</td>
<td>URB</td>
<td>8,600</td>
<td></td>
</tr>
<tr>
<td>Development of Lebanese Type Tomatoes with Multi-Resistance to Tomato Yellow Leaf Curl Virus Soilborne Pathogens and Abiotic Stress.</td>
<td>AGSC</td>
<td>Y. Abou Jawdah</td>
<td>URB</td>
<td>3,900</td>
<td></td>
</tr>
<tr>
<td>Effects of Different Levels of Stubble Retention on Crop Growth, Development and Yield and Soil Organic Matter Buildup Under Zero Tillage Versus Conventional Tillage.</td>
<td>AGSC</td>
<td>S. Yau</td>
<td>URB</td>
<td>3,900</td>
<td></td>
</tr>
<tr>
<td>Chicken Histopathologic Lesions Induced by Multiply Passaged-N9N2 Viruses with Variable Hemagglutinin Gene Sequences.</td>
<td>AVSC</td>
<td>E. Barbour</td>
<td>URB</td>
<td>3,750</td>
<td></td>
</tr>
<tr>
<td>Exploring of the Effects of Spray Drying Conditions on Aging and Enthalpy Relaxation of α-lactose.</td>
<td>NFSC</td>
<td>M. Abiad</td>
<td>URB</td>
<td>4,122</td>
<td></td>
</tr>
<tr>
<td>Iron Deficiency in Obesity: Hidden Hunger or Anemia of Inflammation?</td>
<td>NFSC</td>
<td>H. Ghattas</td>
<td>URB</td>
<td>4,122</td>
<td></td>
</tr>
<tr>
<td>Effects of Different Types of Fat on PYY, GLP-1, Ghrelin, and Insulin Postprandial Response in Healthy Male Subjects.</td>
<td>NFSC</td>
<td>L. Nasreddine</td>
<td>URB</td>
<td>9,428</td>
<td></td>
</tr>
<tr>
<td>The Role of Phosphate in Fructose Induced Hypertriglyceridemia of Rats.</td>
<td>NFSC</td>
<td>O Obeid</td>
<td>URB</td>
<td>6,490</td>
<td></td>
</tr>
<tr>
<td>Characterization of the Lactic Acid Bacteria in Anbaris and Preliminary Probiotic Selection.</td>
<td>NFSC</td>
<td>Z. Kassaify</td>
<td>URB</td>
<td>6,500</td>
<td></td>
</tr>
<tr>
<td>The Characterization of the Physicochemical and Sensory Properties of Full-fat, Reduced-fat and Low-fat Bovine, Ovine and Caprine Concentrated Yogurt.</td>
<td>NFSC</td>
<td>A. Olabi</td>
<td>URB</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Prevalence and Determinants of use of complementary and Alternative Medicine Among Type 2 Diabetes Mellitus.</td>
<td>NFSC</td>
<td>F. Naja</td>
<td>URB</td>
<td>7,889</td>
<td></td>
</tr>
<tr>
<td>Cultivar Influence on Chemical Composition and Sensory Profile of Lebanese Extra Virgin Olive Oil.</td>
<td>NFSC</td>
<td>I. Toufeili</td>
<td>URB</td>
<td>6,000</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>78,823</td>
<td></td>
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</tbody>
</table>
Table A3. Grants: Local Funding Agencies Lebanese National Council for Scientific Research (LNCSR)

<table>
<thead>
<tr>
<th>Title</th>
<th>Dept.</th>
<th>Investigator (PI)</th>
<th>Funding Agency</th>
<th>Duration (Years)</th>
<th>Budget USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia as an Alternative to Methyl Bromide to Control Root-Knot Nematodes in Vegetables.</td>
<td>AGSC</td>
<td>I. Bashour</td>
<td>LNCSR</td>
<td></td>
<td>5,600</td>
</tr>
<tr>
<td>Early Sowing and Irrigation to Increase Crop Yield in Arid Areas.</td>
<td>AGSC</td>
<td>S. Yau</td>
<td>LNCSR</td>
<td>2</td>
<td>13,334</td>
</tr>
<tr>
<td>The Poverty and Equity Implications of a Rise in the Value Added Tax: A Microeconomic Simulation of Lebanon.</td>
<td>AGSC</td>
<td>J. Chaaban</td>
<td>LNCSR</td>
<td></td>
<td>5,466</td>
</tr>
<tr>
<td>Physiological and production responses of Baladi and Shami goats subjected to intermittent watering during mid-lactation</td>
<td>AVSC</td>
<td>S. Hamadeh</td>
<td>LNCSR</td>
<td></td>
<td>8,000</td>
</tr>
<tr>
<td>Nutritional Values of De-hulled Safflower Mal for Poultry.</td>
<td>AVSC</td>
<td>M. Farran</td>
<td>LNCSR</td>
<td></td>
<td>6,333</td>
</tr>
<tr>
<td>Associated Research Unit (ARU) on “Undernutrition and Obesity in Lebanon”</td>
<td>NFSC</td>
<td>N. Hwalla &amp; L. Nasreddine</td>
<td>LNCSR</td>
<td>3</td>
<td>150,000</td>
</tr>
<tr>
<td>Postprandial variation in appetite hormones in response to macronutrient composition of meals in male subjects with metabolic syndrome</td>
<td>NFSC</td>
<td>N. Hwalla</td>
<td>LNCSR</td>
<td></td>
<td>6,667</td>
</tr>
<tr>
<td>Prevalence and Determinants of Complementary and Alternative Medicine Use in Lebanon: A national Study</td>
<td>NFSC &amp; FHS</td>
<td>M. Alameddine &amp; F. Naja</td>
<td>LNCSR</td>
<td>2</td>
<td>18,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>213,400</strong></td>
</tr>
</tbody>
</table>

Table A4. Grants: Local Funding Agencies Other Than LNCSR and URB

<table>
<thead>
<tr>
<th>Title</th>
<th>Dept.</th>
<th>Investigator (PI)</th>
<th>Funding Agency</th>
<th>Budget USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect of a Dietary Herbal Supplement on the Performance and Carcass Quality of Broilers.</td>
<td>AVSC</td>
<td>M. Farran</td>
<td>GPL</td>
<td>34,440</td>
</tr>
<tr>
<td>Training Day at AREC</td>
<td>AGSC</td>
<td>M. Haidar</td>
<td>YMCA</td>
<td>1,124</td>
</tr>
<tr>
<td>Vegetable Seed Trial at AREC</td>
<td>NFSC</td>
<td>N. Hwalla</td>
<td>UNIFERT</td>
<td>22,407</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>57,971</strong></td>
</tr>
</tbody>
</table>
Table A5. Grants Run By FAFS Faculty Members but Their Budget Is Managed Outside FAFS

<table>
<thead>
<tr>
<th>Title</th>
<th>Dept.</th>
<th>Investigator (PI)</th>
<th>Funding Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Economics of Tobacco in Lebanon: An Estimation of the Social Costs of Tobacco Consumption</td>
<td>AGSC</td>
<td>J. Chaaban</td>
<td>IFI</td>
</tr>
<tr>
<td>The Efficiency of Food Labeling as a Rural Development Policy: The Case of Olive Oil in Lebanon.</td>
<td>AGSC</td>
<td>J. Chaaban</td>
<td>IFI</td>
</tr>
<tr>
<td>Recycling Farm Biomass for Biogas Production: Implications for Rural Livelihoods and Greenhouse Gas Emissions.</td>
<td>NFSC &amp; AGSC</td>
<td>M. Abiad &amp; A.Chalak,</td>
<td>IFI</td>
</tr>
<tr>
<td>Sustainable Bedouin livelihoods in a changing world: surviving droughts, policies and markets</td>
<td>LDEM</td>
<td>R. Zurayk</td>
<td>IFI</td>
</tr>
<tr>
<td>Seeds of hope, trees for tomorrow, a participatory ex situ conservation approach</td>
<td>LDEM</td>
<td>S. Talhouk</td>
<td>IBSAR</td>
</tr>
<tr>
<td>Benefits, Risks, Viability and Resilience of an Ecosystem Food and Health Model in Rural Lebanon.</td>
<td>LDEM</td>
<td>S. Talhouk</td>
<td>IBSAR</td>
</tr>
</tbody>
</table>
Appendix 2

Publications, Thesis and Reports
1. Internationally Refereed Journals

**Agricultural Sciences Department (AGSC)**

A total number of 12 articles in international refereed journals were published by the AGSC faculty members as indicated below.


* Corresponding Author

# indicates collaborative publications listed under more than one department
**Animal and Veterinary Sciences Department (AVSC)**

**International Refereed Journals (Corresponding/Senior author *)**

A total number of 10 articles in international refereed journals were published by the AVSC faculty members as indicated below.


* Corresponding Author
# indicates collaborative publications listed under more than one department

**Landscape Design and Ecosystem Management Department (LDEM)**

**International Refereed Journals (*Corresponding/Senior author*)

A total number of seven articles in international refereed journals were published by the LDEM faculty members as indicated below.


**Nutrition and Food Sciences (NFSC) Department**

**International Refereed Journals (Corresponding/Senior author *)

A total number of 23 articles were published in international refereed journals by the NFSC faculty members as indicated below.


* Corresponding Author
# indicates collaborative publications listed under more than one department


Abou Jaoude, D., Olabi, A., Najm, N.O.E., Malek, A., Saadeh, C., Baydoun, E. and Toufeili, I.* Chemical Composition, Mineral Content and Cholesterol Levels of Some Regular and Reduced-Fat White Brined Cheeses and Strained Yogurt (Labneh). *Dairy Science and Technology* (2010); DOI: 10.1051/dst/2010026.

2. Abstracts, conference proceedings, and other published articles

**Agricultural Sciences Department (AGSC)**

**Articles in other journals**


**Abstracts and Conference proceedings**

**Agricultural Sciences Department (AGSC)**


* Corresponding Author

# indicates collaborative publications listed under more than one department


Yau, S.K.* and Ryan, J. Differential Responses of Barley and Legumes to Precipitation and Temperature in a Semi-arid, High Elevation Mediterranean Area. In Abstracts (CD format) of the International Annual Meeting of the American Society of Agronomy,


**Animal and Veterinary Sciences Department (AVSC)**


**Landscape Design and Ecosystem Management Department (LDEM)**

**Articles in other journals**


* Corresponding Author
# indicates collaborative publications listed under more than one department
Abstracts


Nutrition and Food Sciences (NFSC) Department


* Corresponding Author
# indicates collaborative publications listed under more than one department


El Khoury D*. Effect of High-Carbohydrate, High-Protein and High-Fat Meals on the Postprandial Responses of Appetite Hormones in Metabolic Syndrome Subjects, The Third Arab Conference on Obesity and Physical Activity, Manama, Bahrain. (2010).


3. Books, Handbooks, Articles or Chapters in a book

Agricultural Sciences Department (AGSC)

a. Books

Abou Jawdeh, Y. and Bashour, I. Growing Vegetables Under Protected Environment (Green House). In cooperation with Safadi Foundation under the auspices of the Ministry of Economy, Lebanon (96 pages in Arabic).

b. Book Article or Chapters


Landscape Design and Ecosystem Management Department (LDEM)

a. Books


b. Book Article or Chapters

3055-5.


**Nutrition and Food Sciences (NFSC) Department**

a. **Book Chapters**


Obeid, O A. The Role of Energy Density in the Regulation of Energy Intake (46-54). In: Obesity in the Arab World, edited by Dr. A. Musaiger. Published by the Arab Center for Nutrition & Bahrain Center of Studies and Research, 2010.

4. **Theses**

**M.S. Theses Completed**

**Agricultural Sciences Department (AGSC)**

Carla Jamous, Musa N. Nimah (Advisor), Water Use for Optimal Water Productivity, case study: Southern Litani Basin, Lebanon (Summer 2010)

Farah Baroudy, Youssef Abou Jawdeh (Advisor), Molecular Characterization of a Lebanese Isolate of Beauveria and its Efficacy for Control of *Bemisia tabaci* and *Pieris brassicae*(2010)

Jad Dandache, Jad Chaaban (Advisor), Impacts of Agro-Food Cooperatives on Agribusiness in Northern Bekaa Area (Oct. 2009)

Rasha Talhouk, Youssef Abou Jawdeh (Advisor), Breeding Local Tomato Landraces for Combined Resistance to *Tomato yellow leaf curl virus* (TYLCV) and Three Soil-Borne Pathogens. Part II (2010)

**Animal and Veterinary Sciences Department (AVSC)**

Zahi El-Hajji, . Elie Barbour (Advisor), Studies Related to Antimicrobials and Zoonoses Potential of Proteus spp. in Chicken. (June 2010)
Houssam Itani, Elie Barbour (Advisor) and Fawwak Sleiman (Co-advisor), Immunities and Composition of Blood and Milk in Saanen versus Lebanese-local. (February 2010)

**Nutrition and Food Sciences Department (NFSC)**

Adelle Abu El-Aradat, Omar Obeid (Advisor), The Effect of Dietary Phosphorus Manipulation on Lipid Status of Rats Maintained on a High Glucose Diet. (February 2010)

Berna Rahi, Omar Obeid (Advisor), The Effect of Oleic Acid in Combination with Varied Levels of Fish Oil on Glycemic Response and Insulin Sensitivity of Healthy Men. (October 2010)

Betty Dedeian, Omar Obeid (Advisor), Effect of Phosphorus Manipulated High Protein Solution on Subjective Satiety and Energy Intake in Adults. (February 2010)

Diana Kaaki, Ammar Olabi (Advisor), Preference Mapping of Commercial Labneh Products in the Lebanese Market. (October 2009)

Darine Barakat, Zeina Kassaify (Advisor), The Effect of Heat Treatment and Storage Temperature on the Microbiological and Chemical Qualities of Traditional Labneh Anbris. (February 2010)

Joelle Chahine, Lara Nasreddine (Advisor), Comparative Analysis of Selected Body Composition Assessment Methods in 8 to 10 Year Old Lebanese Females. (June 2010)

Laura Karam, Zeina Kassaify (Advisor), The Determination and Validation of Microbial Criteria for Tahini and Halawa Products. (February 2010)

Lama Al-Khuja, Lara Nasreddine (Advisor), Effects of Different Types of Fat on PYY, Ghrelin, and Insulin Postprandial Response in Healthy Male Subjects. (June 2010)

Maya Itani, Omar Obeid (Advisor), Impact of Eight Lessons Intervention on Fourth, Fifth, and Sixth Grade Students’ Nutrition Knowledge. (February 2010)

Malak Rahhal, Omar Obeid (Advisor), Acute Effect of PYY Injection and Caffeine Intake on Postprandial Glycogen and Lipid Synthesis in Rats. (October 2009)


Reem Hamzeh, Zeina Kassaify (Advisor), Plasmid Profile, Antimicrobial and Heat Resistance of Selected Enterobacteriaceae in Sesame Seed, Tahini and Halaweh. (October 2009)
Roula Rechmany, Lara Nasreddine (Advisor), Food Consumption Patterns and Dietary Exposure to Organophosphorous Pesticide Residues in an Adult Semi-Rural Population in Lebanon. (February 2010)

Sara Farhat, Omar Obeid (Advisor), The Acute Effect of Caffeine Supplementation on Hepatic Glycogen in Male Rats. (February 2010)

Sarah Kassem Youssef, Lara Nasreddine (Advisor), Comparative Analysis of Body Composition Assessment Methods in Lebanese Boys Aged 8-10 Years: Anthropometry, Bioelectrical Impedance, and Deuterium Dilution. (February 2010)

Zeina Younes, Farah Naja (Advisor), The Association Between Dysfunctional Eating Behaviors and Body Image Perception in Underweight and Normal Weight Lebanese Young Adult Females. (June 2010)