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Agronomski  
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Faculty of  
Agriculture

Annual

# report

1 June 2007 – 31 May 2008

Annual Report for the period 1 June 2007 - 31 May 2008

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## Dear readers,

It is my pleasure to present you this 2007/2008 Annual Report, which is intended to inform you on all the major activities and achievements of the University of Zagreb Faculty of Agriculture.

The Faculty of Agriculture lecturers and other staff assumed responsibility for over 1,700 students studying at this institution. We carefully monitored the first generation of undergraduate students and took all necessary steps to introduce the standard of excellence. In the meantime, preparations were completed for the first generation of graduate students. However, the job has not been finished, since we have to continue working towards improvement and control of quality, and increase in mobility of students.

We are encouraged by results achieved in international relations and cooperation - numerous international visits, organization of workshops, conferences and seminars at the Faculty premises, international congresses and symposia attended by our staff, and their business trips. Establishing and maintaining contacts and cooperation with colleagues from other countries opens the door for the students' mobility. The Faculty is actively involved in four TEMPUS projects and coordinator in two of them. Of ten projects proposed to the FP7, three were approved for funding. The Faculty was visited by a large number of foreign university lecturers and students which came either individually or in groups through different exchange programs.

The scientific research projects funded by the Ministry of Science, Education and Sports, approved early in 2007, pose a new challenge and give our researchers chance for new achievements. We are particularly encouraged by the fact that we were approved another 14 projects during the reporting period. Such a number of projects enabled us to employ a larger number of junior researchers. Employment and additional education of young researchers is the basis for the Faculty development and prosperous future. Increased number of projects and researchers resulted in increase in number of published papers in scientific journals.

The Report shows that, as regards financial performance, the reporting period is marked by considerable increase in revenues (9%) and improvement in the revenue structure since the share of revenue from the Faculty's own activities is higher as a result of intensified scientific research and professional involvement and increase in number of projects and researchers. The Faculty invested considerable own assets into maintenance of the Faculty facilities, particularly buildings and structures, their fitting with the state-of-the-art equipment, computers, and classroom facilities.

Two major projects were finished during 2007, which increase working capacity and total value of the Faculty property - the Agriculture and Food Institute was established, and the Šašinovec estate became one of the Faculty experiment stations.

Scientific and professional production, international projects and different forms of cooperation show increase rates, which is encouraging. The Faculty is thus fulfilling its mission and maintaining its position of a leading research and education institution in the field of agriculture both in Croatia and in greater region.

This Annual Report is a product of dedicated work, knowledge, experience and enthusiasm of the Faculty of Agriculture staff. This is in acknowledgement of their effort, and it is my honour to have this chance to congratulate them for all their successes on behalf of the Faculty management and my own. I wish all the members of the staff, students, and all our collaborators from numerous institutions and companies much success in their future endeavours.

A handwritten signature in black ink, appearing to read 'Davor Romić', is centered on a light gray rectangular background.

Professor Davor Romić, PhD  
Faculty of Agriculture Dean

## Dear readers,

It is our pleasure to present you the seventh addition of the Annual Report of the University of Zagreb Faculty of Agriculture, which makes it a regular publication traditionally presented the Faculty Day. Although the Annual Report preparation is a challenging task, and some facts are repeated which might make them boring, we believe that this overview of the Faculty activities and academic life during the reporting period contains numerous necessary and useful information.

Although the Annual Report design is changed, its concept remains the same. The main reason for not changing the concept is comparability of results, enabling stakeholders to follow all the changes in the Faculty work and life during the reporting period, to analyze and when necessary timely react to negative indicators. Some minor errors noticed in the previous report were eliminated, so we hope we have improved quality of presentation of our work.

Most of space available in the Report is earmarked for the basic activities pursued at the Faculty – teaching and scientific research. However, we did not forget other professional activities, financial aspects and international cooperation. Publishing, library and IT activities at the Faculty, promotional and students' activities are presented in the same way as in the previous report, and the attachment contain numerous data on the Faculty departments, their staff, experiment stations, and all the changes that happened during the past year.

This Annual Report covers again the period between June of the past year and May of the current year. As regards teaching activities, it should be mentioned that the third generation of the "Bologna" students was enrolled, the theses are being prepared and the first generation of undergraduate students is expected to graduate according to the Bologna process. We are successfully addressing the initial problems with implementation of the new programs, and requirements were successfully met by the students and professors. The postgraduate doctoral studies were launched, the first generation of graduates is being enrolled this autumn, therefore we believe that our Faculty successfully implemented the studies reform.

The Faculty scientific research engagement was abundant during the last year, and the results confirmed high reputation of our researchers. The number of scientific papers per researcher is highest so far, and we were approved another 14 projects by the Ministry of Science, Education and Sports. With number of projects totalling 93, this reporting period is considered to be one of the most successful periods for the Faculty. Additionally, 15 scientific programs were positively assessed, and engagement of 16 junior researchers was approved, thus we are speaking of a very successful period.

I would use this opportunity to thank all those who participated in writing of this Report – authors, members of the Editorial Board and the services which provided us with all necessary data. I would particularly underscore the effort of the department staff, the department heads and their collaborators, and experiment station managers whose timely submittal of necessary input helped us in preparation of this Report. I hope that this Annual Report will justify the invested efforts and money, and that it will be a relevant source of information about the life and work at the University of Zagreb Faculty of Agriculture.

Editor-in-Chief



Professor Edi Maletić, PhD,  
Dean for Scientific Affairs

# Contents

■		<b>1.</b>
		<b>Founding and Organisation</b>
1.1	Registration and Statutes	1
1.2	Management	1
1.3	Organisation	2
1.4	Employment	3
1.5	Promotion to Higher Ranks	5
1.6	Staff Ranks and Gender in 2008	5
■		<b>2.</b>
		<b>Financial Operations and Assets</b>
2.1	Period Covered	7
2.2	Assets and Liabilities	7
2.3	Revenue and Expenses	7
2.4	Major Business Projects in 2007	9
■		<b>3.</b>
		<b>Teaching Activities</b>
3.1	Study Programs – General	11
3.2	Undergraduate Study Program	13
3.3	Undergraduate Studies (since the academic year 1996/1997)	15
3.4	Enrolments - Old and New Study Program	15
3.5	Tuition Fees (old and new study program)	17
3.6	Student Performance - Old and New Study Program	17
3.7	Field Trips	18
3.8	Academic Year 2007/2008 Graduates	18
3.9	Undergraduate Studies Taught by the FAZ Teaching Staff at Other Croatian and Foreign Higher Education Institutions	19
3.10	Postgraduate (Doctoral) Studies	21
3.11	Dissertations	24
3.12	Project: Agribusiness Higher Education Development	24
3.13	2007/2008 Student Survey	24
■		<b>4.</b>
		<b>Scientific Research and Professional Activities</b>
4.1	Introduction	25
4.2	Projects Contracted with the Ministry of Science, Education and Sports	26
4.3	Projects Contracted with the Ministry of Agriculture, Fisheries and Rural Development	26
4.4	Projects Contracted with National and Regional Administration, Companies and Entrepreneurs	26
4.5	Junior Researchers	27
4.6	Presentation and Dissemination of Research Results	27
■		<b>5.</b>
		<b>Experiment Stations</b>
5.1	Introduction	29
5.2	Experiment Stations Production Capacities (Land and Livestock)	29
5.3	Experiment Stations Completely Managed by FAZ	30
5.4	Experiment Stations Managed by the FAZ Departments	33

<b>6. Publishing, Libraries and IT Activities</b>	■		
	6.1 Publishing		49
	6.2 Library Activities		51
	6.3 IT Activities		51
<b>7. Students' Organisation and Activities</b>	■		
	7.1 The FAZ Students Assembly Chapter		53
	7.2 IAAS Hrvatske /the FAZ/		54
	7.3 STUDA Association of Students of Agriculture		55
	7.4 USKA Landscape Architecture Students' Group		57
	7.5 Agronomiade		57
	7.6 Awards and Certificates of Merit Presented to Students		58
	7.7 Report on Physical and Health Culture Course		59
	7.8 Report on the FAZ Students Sport Results		60
	7.9 Student Extracurricular Activities		63
<b>8. The Faz Promotional Activities</b>	■		
	8.1 Introduction		65
	8.2 Merit Plaques, Certificates of Merit and Awards Presented by the Faculty		66
	8.3 Merit Plaques, Certificates of Merit and Awards the Faculty Received from Other Institutions		66
	8.4 Convention of the University of Zagreb		67
	8.5 43 <sup>rd</sup> Croatian and 3 <sup>rd</sup> International Symposium on Agriculture		68
	8.6 Participation in Science Festival		69
<b>9. International Cooperation</b>	■		
	9.1 International Relations Office Organisation		71
	9.2 IRO Scope of Activities		71
	9.3 IRO Activities during the Reporting Period 1 June 2007 - 31 May 2008		73
	9.4 Call for Proposals for International Cooperation Incentives		73
	9.5 International Collaboration and Exchange		74
	9.6 International Projects		76
	9.7 International Exchange		79
	9.8 Miscellaneous		79
<b>10. Appendix</b>	■		
	Annual Report authors and collaborators		81
	FAZ Departments, Department Heads and Deputies		83
	Scientific Research Projects (2007-2009)		84
	Scientific Research Programs (2007-2009)		86
	ARC - Projects		86

# 1.

## Founding and Organisation

### 1.1 Registration and Statutes

The University of Zagreb Faculty of Agriculture (lat. *Facultatis Agriculturae Zagrabiensis*) is registered with the Zagreb Commercial Court as legal successor of the University of Zagreb Faculty of Agricultural Sciences. An authorised representative of the Faculty is Dean Professor Davor Romić, PhD. By the Decision of the Ministry of Science, Technology and Sports of 15 February 1996, the Faculty of Agriculture (FAZ) was entered into the Ministry Directory of Scientific Research Institutions.

The Faculty Statutes were adopted at the Faculty Council meeting of 14 July 2005 and came into force on 7 December 2005 after their approval by the Senate of the University of Zagreb (approval No: 01-1915/44 of 15 December 2005). The current Statutes are harmonised with the provisions of the Bologna Declaration, the Scientific Research and Higher Education Act, and the Statutes of the University of Zagreb.

### 1.2 Management

The Faculty management organisation ensues from the stipulations of the Institutions Act, Scientific Research and Higher Education Act, and the Faculty of Agriculture Statutes. The Faculty Dean is the chief executive officer, elected and appointed by the Faculty Council for a three-year term. The Dean is assisted in his work by four vice-deans and a secretary.

The vice-deans are Assistant Professor Mihaela Britvec, PhD, Dean for Academic Affairs, Professor Edi Maletić, PhD, Dean for Scientific Affairs, Professor Milan Mesić, PhD, Dean for International Relations, and Assistant Professor Josip Juračak, PhD, Dean for Management. In decision-making on financial and investment issues, the Dean is assisted by the Board for Organisation, Finances and Investment appointed by the Faculty Council upon the Dean's recommendation. At its session of 29 May 2006, the Faculty Council elected Professor Davor Romić, PhD the Faculty Dean, and his term of office started at the beginning of the new academic year, on 1 October 2006.

The vice-deans were elected at the Faculty Council session of 24 October 2006.

The 97 members - elected representatives of full and associate professors, assistant professors, lecturers, teaching assistants and students – comprise the Faculty Council (FC) which is founded pursuant to the stipulations of the FAZ Statutes. The Faculty Council renders technical support to teaching and scientific research activities performed at the FAZ and makes all important decisions. The current FC members were elected for a three-year term, from 1 October 2006 to 30 September

#### 1.2.1 Faculty Council

## 2 University of Zagreb . Faculty of Agriculture

2009. The FC members are 35 full professors, 25 associate professors, 21 assistant professors, 1 senior lecturer, 1 senior teaching assistant, 1 teaching assistant, and 13 students. During the reporting period, FC held 10 sessions (9 ordinary and one extraordinary session).

**Table 1.1**  
Faculty Council

Members	Bodies
Full professors (35)	Boards (10* – 102**)
Associate professors(25)	Committees (10* –80**)
Assistant professors (21)	ACS (23**), and web site (11**) Editorial Boards
Senior teaching assistants (1)	Disciplinary Committee (teaching staff) (8**)
Teaching assistants (1)	Disciplinary Committee (other staff) (6**)
Senior lecturers (1)	Disciplinary Committee (students) (6**)
Students (13)	International Relations Board (10**)

\* number of bodies; \*\* number of members

### 1.2.2 Boards and Committees

The FC appoints its bodies - boards and committees - by its decisions made pursuant to the stipulations of the Statutes. Exceptionally, in urgent cases, committees may be appointed by the Dean. Late in May 2008, 10 boards and 10 committees were working. Number of boards and committees changes during the term of office, since some finish their work and others are founded when necessary. The FC boards have 102 members, including the students' representatives, and the FC committees have 80 members.

Many members of these bodies are also involved in other FC bodies, as mentors, members of the Court of Honour, members of editorial boards of regular and periodical FAZ publications and of the web site, etc. In line with the new study programs based on the Bologna Declaration, these bodies include coordinators of nine FAZ undergraduate study programs, and coordinators of the Inter-University Mediterranean Agriculture Study, Split.

## 1.3 Organisation

### 1.3.1 Departments

The FAZ organisation is based on 28 departments. The departments are responsible for cost-efficient use of material, financial and other resources put at their disposal to perform the teaching, scientific research, and professional activities. A department is managed by a department head appointed for a three-year term by the FC, based on a proposal submitted by the department. New department heads were appointed and the earlier heads and their deputies re-appointed for the new three-year term of office (from 2006/2007 to 2008/2009). (List of departments, heads and deputy heads is attached to this Annual Report.)

Late in May 2008, the FAZ departments had 376 members of staff, i.e. about 13.4 members of staff per department (from 6 to 36). The number of staff depends on whether a department manages an experiment station.

### 1.3.2 Administration

The FAZ Administration consists of corporate services, including the Dean's Office, corporate, legal, human resources and students' admission service, maintenance and security, safety-at-work, accounting, Central Agricultural Library (CAL), International Relations Office (IRO), Agricultural Scientific Review (ACS), some

members of the web site Editorial Board, system engineer, and Physical and Health Culture Section. The Faculty administration has 66 members of staff.

The Administration activities are managed by the Dean and Vice-Deans, manager of corporate and legal services and human resources, accounting head, Central Agricultural Library (CAL) head librarian, copy editor of Agricultural Scientific Review (ACS) and the FAZ web site, and Physical and Health Culture Section Head and collaborator. Two of six experiment stations are managed by the Faculty and four experiment stations are run by individual FAZ departments. The Maksimir Experiment Station in 25 Svetošimunska St. consists of five sections, each managed by one FAZ department. The Jazbina Experiment Station consists of two sections managed by two departments. The Sljeme Center Experiment Station on Mt. Medvednica is run by one department, same as the Dubrovnik Experiment Station. Compared to the previous reporting period, number of experiment stations has not changed.

## 1.4 Employment

As of 31 May 2008, the FAZ had 427 full-time and 15 part-time employees (442 in all). Number of employees has been on increase in the recent years. Compared to the previous year the number of employees in 2008 increased by 28 (42 newly employed, 14 left the FAZ staff).

Year	2004	2005	2006	2007	2008
Number of employees	372	387	397	414	442
Index	100	104	107	111	119

**Table 1.2**  
FAZ full-time and part-time employees, 2004-2008 -as of 31 May 2008-

During the reporting period, the highest employment rate was recorded for the junior researchers (16). Fourteen employees terminated their employment: by consent (4), retirement (8), and work contract termination (1), while one employee prematurely died. Twenty-five female members of the staff were at maternity leave.

In total number of the FAZ *full-time* staff (N=427), doctors of science account for 33.5%, and masters of science for 7.5%. Employees with university degree account for 27.9%, and the ones with associate degrees for 2.5%. The staff with secondary school degree accounts for 19.7%, and the remaining 8.9% of full-time staff have basic education. Among the *part-time* employees (N=15), six staff members have university diploma degree, seven secondary school degree, and two members of staff have basic education. Compared to the previous year, the largest increase was recorded among the staff with basic education, associate degrees and university degrees, while the number of staff with secondary school degree did not change. Number of staff with doctor's degree did not change, and the number of employees with master's degree decreased by three compared to the previous reporting period.

Of 143 doctors of science, 123 (86.0%) are full professors, associate professors, and assistant professors. Others are appointed senior teaching assistants, senior lecturers, teaching assistants, staff associates and junior researchers. Most of thirty-two masters of science have junior researcher status (14).

### 1.4.1 Qualifications

**Table 1.3**  
Full-time employees as per qualifications and changes (2004 - 2008) - as of 31 May 2008 -

Year Qualification	2004		2005		2006		2007		2008		Index 2004=100
	Number	(%)	Number	(%)	Number	(%)	Number	(%)	Number	(%)	
Doctor of sciences	122	33.8	129	34.0	135	34.8	143	36.7	143	33.5	117.2
Master of sciences	40	11.1	40	10.6	45	11.6	35	9.0	32	7.5	80.0
University degree	69	19.1	83	21.9	82	21.1	86	22.0	119	27.9	172.5
Associate degree	9	2.5	9	2.4	10	2.6	9	2.3	11	2.5	122.2
Secondary education	86	23.8	83	21.9	83	21.4	84	21.5	84	19.7	97.7
Basic education	35	9.7	35	9.2	33	8.5	33	8.5	38	8.9	108.6
<b>Total</b>	<b>361</b>	<b>100.0</b>	<b>379</b>	<b>100.0</b>	<b>388</b>	<b>100.0</b>	<b>390</b>	<b>100.0</b>	<b>427</b>	<b>100.0</b>	<b>118.3</b>

**1.4.2 Teaching Staff**

The number of university professors (from assistant professor to full professor) totals 123 or 50.2% of total number of teaching staff, i.e.: 43 full professors (27 tenures and 16 first appointments), 35 associate professors and 45 assistant professors.

Teaching associates (not including junior researchers) number 49, which makes altogether 172 professors and associates. Since the junior researchers take part not only in scientific research projects, but also in preparation of the lectures and in teaching process, the total number of teaching staff actually numbers 73 members more. Total number is, conditionally, 245 professors and teaching associates, i.e. 55.4% of total number of employees (442). Compared to the previous reporting period, number of full professors and assistant professors increased, while the number of associate professors decreased. Number of teaching assistants and junior researchers also increased.

**Table 1.4**  
Number and shares of the FAZ lecturers and teaching associates and changes in the period 2004-2008 - as of 31 May 2008 -

Appointment rank/Year	2004		2005		2006		2007		2008		Index			
	Number	(%)	Number	(%)	Number	(%)	Number	(%)	Number	(%)	08/04	08/05	08/06	08/07
Full professors, total	30	15.7	32	15.2	36	16.3	40	17.6	43	17.6	143.3	134.4	119.4	107.5
- tenure	22	11.5	23	10.9	23	10.4	27	11.9	27	11.0	122.7	117.4	117.4	100.0
- first appointment	8	4.2	9	4.3	13	5.9	13	5.7	16	6.6	200.0	177.8	123.1	123.1
Associate professors	30	15.7	38	18.1	39	17.6	39	17.2	35	14.3	116.7	92.1	89.7	89.7
Assistant professors	41	21.5	43	20.5	43	19.5	42	18.5	45	18.3	109.8	104.7	104.7	107.1
(I) Professors, total	101	52.9	113	53.8	118	53.4	121	53.3	123	50.2	121.8	108.8	104.2	101.7
Teaching assistants, total	45	23.6	38	18.1	42	19.0	40	17.7	44	18.0	97.8	115.8	104.8	110.0
- senior teaching assistants	13	6.8	6	2.9	6	2.7	9	4.0	9	3.7	69.2	150.0	150.0	100.0
- teaching assistants	29	15.2	32	15.2	36	16.3	31	13.7	35	14.3	120.7	109.4	97.2	112.9
- junior teaching assistants	3	1.6	-	-	-	-	-	-	-	-	-	-	-	-
Lecturers, total	4	2.0	4	2.0	5	2.3	6	2.6	5	2.0	125.0	125.0	100.0	83.3
- senior lecturers	2	1.0	2	1.0	2	0.9	3	1.3	2	0.8	100.0	100.0	100.0	66.7
- lecturers	2	1.0	2	1.0	3	1.4	3	1.3	3	1.2	150.0	150.0	100.0	100.0
(II) Associates, total	49	25.7	42	20.0	47	21.3	46	20.3	49	20.0	100.0	116.7	104.3	106.5
Professors and associates, total	150	78.6	155	73.8	165	74.7	167	73.6	172	70.2	114.7	111.0	104.2	103.0
(III) Junior researchers	41	21.4	55	26.1	56	25.3	60	26.4	73	29.8	178.0	132.7	130.4	121.7
<b>Total (I+ II+ III)</b>	<b>191</b>	<b>100.0</b>	<b>210</b>	<b>100.0</b>	<b>221</b>	<b>100.0</b>	<b>227</b>	<b>100.0</b>	<b>245</b>	<b>100.0</b>	<b>128.3</b>	<b>116.7</b>	<b>110.9</b>	<b>107.9</b>

## 1.5 Promotion to Higher Ranks

During the reporting period, 12 members of the FAZ staff were promoted into higher ranks: one tenure, four full professors - first appointment, four assistant professors, two senior teaching assistants, and two teaching assistants. During this reporting period, one staff member was promoted into the senior teaching assistant and subsequently into the assistant professor rank. Compared to the previous reporting period, no promotions were made into the ranks of associate professor, senior lecturer and lecturer.

Appointment rank/Reporting period	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Professors*)					
Full professor	3	3	6	6	5
- tenure	2	1	1	5	1
- first appointment	1	2	5	1	4
Associate professors	11	10	6	6	-
Assistant professors	7	16	6	8	4
Professors, total	21	29	18	20	9
Associates					
Senior teaching assistants	2	2	2	8	2
Teaching assistants	8	5	6	2	2
Senior lecturers	-	-	-	1	-
Lecturers	1	1	-	-	-
Associates, total	11	8	8	11	4

**Table 1.5**  
Promotion of professors to higher ranks during five reporting periods (2003/2004 to 2007/2008)

\* Number of professors who remained in the same rank included.

## 1.6 Staff Ranks and Gender in 2008

Considering gender, most full professors (81.4%) are male, with only 18.6% of women in the rank. Of total 35 associate professors, 22 or 62.9% are male. Although number of male assistant professors is higher than that of female, this difference is not as high as in full professors and associate professors rank. Number of female staff is higher in the rank of senior teaching assistant, teaching assistant and junior researcher, see Table 1.5 below, which shows that three of nine senior teaching assistants, 15 of 35 teaching assistants and 35 of 73 junior researchers are male. During the previous reporting period, number of male and female junior researchers was equal, while during the current reporting period the number of female was higher than the number of male junior researchers.

Appointment rank	Total	Male	Female
Full professors	43	35	8
Associate professors	35	22	13
Assistant professors	45	24	21
Senior teaching assistants	9	3	6
Senior lecturers	2	2	-
Lecturers	3	1	2
Teaching assistants	35	15	20
Junior researchers	73	35	38
TOTAL	245	137	108
%	100.0	55.9	44.1

**Table 1.6**  
Staff Ranks and Gender in 2008  
-as of 31 May 2008-



## 2. Financial Operations and Assets

### 2.1 Period Covered

The Faculty of Agriculture is required to keep financial records and submit financial reports by calendar year, so the data presented refer to the period 1 January to 31 December of a given business year. Therefore, the information contained in this section refers to the calendar year 2007, unlike other sections which cover the period 1 June 2007 to 31 May 2008.

### 2.2 Assets and Liabilities

The Faculty of Agriculture is one of the largest faculties of the University of Zagreb regarding number of employees and its assets. Between 1 January 2007 and 31 December 2007, total assets decreased from 363 to 358 million Croatian kunas, since the property not used for the scientific research and teaching purposes was sold. The major share of assets are capital assets, particularly buildings, land, equipment and instrumentation. Financial assets include current cash flow, receivables and some securities.

High value of available assets generates high maintenance costs, so the Faculty costs of regular maintenance and capital improvements are rather high. Considering this fact, and the fact that total business operational costs are not covered from the budget, the available assets need to be used efficiently in order to preserve and, if possible, increase their value.

Description	1 January 2007		31 January 2007	
	HRK 1000	Structure	HRK 1000	Structure
Assets	363,156	100%	358,013	100%
Non-financial assets	332,256	91%	324,805	91%
Financial assets	30,900	9%	33,208	9%
Liabilities and own sources	363,156	100%	358,013	100%
Liabilities	10,120	3%	14,423	4%
Own sources	353,036	97%	343,590	96%

Table 2.1  
Balance Sheet value and structure

### 2.3 Revenue and Expenses

During 2007, the Faculty of Agriculture total revenue was almost 110 million Croatian kuna, which is higher compared to the year before by 9 index points. Most of the increase was due to the revenue from own sources and property sales, since share of revenues from Faculty's own activities increased from 26.69% to 31.70%.

During the reporting period, total expenses increased from 96 to 101 million Croatian kunas or by 5 index points.

Since the increase in revenues was higher than increase in expenses, the difference between the revenue and expenses achieved was available for cost coverage and future investment.

**Table 2.2**  
Overview of revenue and expenses  
in 2006 and 2007  
(Kunas 1000)

Item	2006	2007	Index (2006=100)
Revenue	100,948	109,860	109
- in which: revenue from the budget, %	73.31%	68.30%	93
- in which: revenue from own activities, %	26.69%	31.70%	119
Expenses	95,887	100,916	105
Revenue/expenses difference	5,061	8,944	177

There is a noticeable increase in the revenue from own activities (19%), which means continuation of positive increase trend from the previous reporting period. Within the revenue from own activities, the largest item is the revenue from performing scientific research and teaching activities with a share of 72%. Other revenue items are from property sale and management (26%), and from grants (2%).

**Table 2.3**  
Overview of operating revenue  
from own activities, 2007

Description	HRK 1000	Share
Operating revenue from own activities	34,826	100%
Scientific research activities	22,565	65%
Teaching activities	2,463	7%
Capital assets	4,409	13%
Financial assets	4,595	13%
Grants	794	2%

Unlike the period 2006/2005, the revenue from the budget in 2007 increased compared to 2006 by one million Croatian kunas. The largest portion of this increase is an increase in assets for funding of operating expenses (salaries, operating costs), while other items decreased.

The revenue from the budget for salaries amounts to 75%, while material costs account for less than 7% share in the revenue from the budget. Other items individually account for less than a 5% share in the revenue from the budget.

**Table 2.4**  
Overview of operating revenue  
from the budget, 2007

Description	HRK 1000	Share
Operating revenue from the budget, total	75,034	100%
Financing of operating expenses	71,492	95%
Equipment procurement*	1,171	2%
Capital improvements and maintenance	2,371	3%

\* Revenue for equipment procurement from VAT return included.

Total revenue earned by and the financial situation at the Faculty of Agriculture at the end of 2007 was satisfactory, setting the basis for the planning of further financial development in 2008. It is important, in particular, that such good results were realized in the period when considerable changes are being introduced into the funding of the University, and the future is expected to bring more difficulties in adjusting to the new system.

An increase in the Faculty expenses by 5 million Croatian kunas is mostly due to an increase in expenses for the Faculty staff. A significant increase in expenses is also due to investment into building structures, reconstruction of a building for the Agriculture and Food Institute, and replacement of windows in the faculty campus buildings.

In the structure of expenses, employee salaries dominate with a share of 56%. Other larger items include expenses for intellectual and other services (17%), while all other expenses collectively make less than 10% of the total amount. Travel and transportation costs and material expenses decreased compared to the previous year and they account for 15% of the total amount.

Item	HRK 1000	Share
TOTAL EXPENSES	100,917	100%
Salaries and salary compensations	56,723	56%
Expenses for services	17,186	17%
Allowances for travel and transportation costs	8,369	8%
Material expenses	7,094	7%
Equipment and vehicles procurement	5,604	6%
Construction works	3,714	4%
Other expenses	2,227	2%

Table 2.5  
Operating expenses, 2007

The equipment and vehicles procurement expenses are also lower, which is partly due to decreased VAT return which is used for procurement of these items.

In 2007, despite the increase in expenses of somewhat more than 5 million Croatian kunas compared to 2006, a positive trend was recorded because of the increase in revenues and considerable amount earned for the future. This is particularly important having in mind the renovation of the premises in the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> campus buildings planned to be carried out in 2009.

## 2.4 Major Business Projects in 2007

In 2007, two projects of long-term importance for the Faculty were finished.

An Agreement was signed on taking over of the Šašinovec estate on 11 July 2007. The Agreement was signed between the Ministry of Science, Education and Sports, the University of Zagreb, the Ministry of Agriculture, Forestry and Water Resources, Croatian Animal Breeding Center and the University of Zagreb Faculty of Agriculture, and the said estate officially became the Faculty property. The Faculty gained considerable amount of agricultural land, buildings, equipment and staff, and the estate will be used as a new experiment station for different types of agricultural production. Coming in possession of the Šašinovec estate will enable the Faculty future development of the lifelong learning program and different professional activities.

The activities on establishment of the Agriculture and Food Institute reached the final stage. The Institute was entered into the Court Register as an institution established by the University of Zagreb Faculty of Agriculture and Tobacco Institute Zagreb. The permissions were obtained and the detail design finished for the Agriculture and Food Institute building reconstruction, and the works started.

### 2.4.1 Capital Projects

2.4.2  
Investment into Improvements  
and Equipment

■ During the reporting period, a number of small but important projects were carried out on reconstruction of the Faculty premises in 25 Svetošimunska St. The single largest investment was that into replacement of windows with glass panes in the 1st, 2nd and 3rd campus buildings, which created conditions for complete reconstruction and quality insulation of the building facades.

The City of Zagreb invested into parking lots by the 3rd and 2nd campus buildings. In cooperation with the Faculty of Forestry and Plant Protection Institute, the parking lots by the 4th, 5th and 6th campus buildings were finished, so the needs of the Faculty staff and visitors are satisfied.

The Faculty invested its money into fitting out 10 classrooms with fixed projectors and screens, which created conditions for higher quality teaching process using modern technology.

A considerable amount was invested into regular maintenance and capital improvements of building and other Faculty assets and experiment stations. Major works were carried out on repair of roofs on buildings at the Center for Grasses (Sljeme) and Šašinovec experiment station.

Investment into information system is not large, but it is very important. A part of the server was replaced, and the faculty computer network extended using the optical link to Pčelinjak and Kudeljara facilities. These facilities were also installed a new telephone cable.

## 3. Teaching Activities

The Faculty of Agriculture organises its university study programs in three cycles: undergraduate, graduate (since the academic year 2008/2009) and postgraduate doctoral studies.

The FAZ also has a specialised postgraduate study in Fisheries.

No students are admitted into the old undergraduate and postgraduate studies. These programs are still implemented only for the students who enrolled earlier. However, it is still possible to earn a doctor's degree according to the so called old program.

### 3.1 Study Programs – General

Since the implementation of the Bologna process started in the academic year 2005/2006, the whole education system has been tailored to the three cycles of higher education, 3+2+3 years, namely 180+120+180 ECTS.

#### Study program

Agricultural Economics  
Agricultural Engineering  
Agroecology  
Animal Science  
Horticulture  
Landscape Architecture  
Mediterranean Agriculture\*  
Organic Agriculture  
Plant Science  
Plant Protection

**Table 3.1**  
FAZ undergraduate study programs

\*Interuniversity undergraduate study program carried out in the City of Split, through collaboration of the University of Zagreb Faculty of Agriculture, University of Split and Institute for Adriatic Crops and Karst Reclamation (see section 3.9.1.).

The Faculty of Agriculture offers nine six-semester undergraduate study programs with 180 ECTS credits each. After completing their three-year undergraduate studies, the students are awarded the academic title of *baccalaureus/baccalaurea* (bachelor of science) in agriculture or agricultural engineer and can either find professional employment or continue their education in one of 13 graduate studies. The Faculty of Agriculture started its 13 four-semester graduate study programs, with 120 ECTS credits each, in the academic year 2008/2009. After completing the graduate study program, the students earn a degree of master of science in a specific field of agriculture.

The Faculty of Agriculture has been organising the postgraduate (doctoral) study program in Agricultural Sciences since the academic year 2005/2006. The program lasts six semesters (180 ECTS), and after completing their course of studies the

students are awarded an academic title of doctor of sciences in the scientific area of biotechnical sciences and the scientific field of agriculture/agronomy.

The postgraduate doctoral study program in Agricultural Economics has been implemented since the academic year 2007/2008. On 20 February 2008, the study program was accredited by the Ministry of Science, Education and Sports. This is a six-semester study program (180 ECTS), and after completing their course of studies the students are awarded an academic title of doctor of sciences in the scientific area of biotechnical sciences and the scientific field of agriculture/agronomy.

The specialised postgraduate study program in Fisheries has been implemented since the academic year 2007/2008. This study program belongs to the scientific area of biotechnical sciences, the scientific field of agriculture (agronomy), and the scientific branch of fisheries. It is organised as a program lasting one academic year (two-semesters, 60 ECTS), and the students are awarded the academic degree of specialist in fisheries.

**Table 3.2**  
FAZ graduate study programs  
(since the academic year  
2008/2009)

**Study program\***

Agribusiness and Rural Development  
Agricultural Engineering  
Agroecology  
Animal Genetics and Breeding  
Feed and Animal Nutrition  
Fisheries and Game  
Horticulture  
Landscape Architecture  
Meat Production and Processing  
Milk Production and Processing  
Organic Agriculture and Agritourism  
Phytomedicine  
Plant Science

\* Graduate program majors:

Agroecology: a) Agroecology; b) Microbial Biotechnology in Agriculture

Horticulture: a) Vegetable Crops; b) Ornamental Plants; c) Viticulture and Enology; d) Pomology

Agricultural Engineering: a) Machinery; b) Soil Improvement

Implementation of old and new undergraduate studies are the responsibility of the Teaching Process and Teaching Staff Appointment Board.

The old and new undergraduate studies are regulated by a number of regulations and bylaws, which are available from the Faculty web site (<http://www.agr.hr/cro/nastava/bs/dokumenti.htm>; <http://www.agr.hr/cro/nastava/dds/dokumenti.htm>). The Application forms for dissertation proposal and evaluation at the postgraduate doctoral studies in Agricultural Sciences is also available from the web site (<http://www.agr.hr/cro/nastava/ds/pz/dokumenti.htm>).

### 3.2 Undergraduate Study Program

According to the FAZ students' admission service data for the academic year 2007/2008, 439 students enrolled in the undergraduate studies. Compared to the previous academic year, it is a 14.6% increase (64 students).

The highest enrolment rate was in Horticulture (74 students or 16.9%) and the lowest in Landscape Architecture (27 students or 6.2%) and Agricultural Engineering (28 students or 6.4%), which is due to the admission quotas and interest of the students in particular undergraduate studies. The lowest admission quota, for example, was set up for the Landscape Architecture, 25 students, and the highest quota was approved for Horticulture – 66 students.

The quotas for some study programs were exceeded since some students (38) were admitted under the Veterans and the Veteran Family Members Act.

Study program	Coordinator	Quota		Enrolments, 1st semester	
		Number	Share (%)	Number	Share (%)
Agricultural Economics	Assistant Professor Ramona Franić, PhD	35	7.7	40	9.1
Agroecology	Professor Milan Mesić, PhD	55	12.2	54	12.3
Animal Science	Professor Vesna Pavić, PhD	62	13.8	59	13.4
Plant Science	Professor Milan Pospišil, PhD	60	13.3	61	13.9
Organic Agriculture	Professor Ivica Kisić, PhD	55	12.2	50	11.4
Horticulture	Professor Ines Vršek, PhD	66	14.7	74	16.9
Landscape Architecture	Professor Branka Aničić, PhD	25	5.6	27	6.2
Agricultural Engineering	Professor Tajana Krička, PhD	35	7.8	28	6.4
Plant Protection	Professor Zvonko Ostojić, PhD	57	12.7	46	10.5
Total		450	100.0	439	100.0

#### 3.2.1 Number of Students

**Table 3.3**  
Admission quotas, number and percentages of the 1<sup>st</sup> semester students and coordinators of undergraduate study programs, academic year 2007/2008

Regarding the Croatian place of origin (city/county) of the first-year students enrolling at the Faculty of Agriculture, the majority of students comes from the City of Zagreb (61.3%), while number of students from the Zagrebačka (4.3%), Koprivničko-Križevačka (4.3%), Zadarsko-Kninska (3.6%) and other counties is considerably lower. Among the first-year FAZ students, 14 students (3.2%) are from Bosnia and Herzegovina.

Considering gender, among the first year students (439), number of female students (258 or 58.8%) is higher than the number of male students (181 or 41.2%). Compared to the previous academic year, the share of female students increased by 2.8%.

#### 3.2.2 The First-Year Undergraduate Students by Place of Origin

**Table 3.4**  
First-year students by gender  
and place of origin (county, city),  
academic year 2007/2008

	Male	Female	Total	Share (%)
Republic of Croatia, total	170	255	425	96.8
County/city:				
Bjelovarsko-Bilogorska County	2	1	3	0.7
Brodsko-Posavska County	4	1	5	1.1
Dubrovačko-Neretvanska County	6	6	12	2.7
City of Zagreb	100	169	269	61.3
Istarska County	9	5	14	3.2
Karlovačka County	1	5	6	1.4
Koprivničko-Križevačka County	8	11	19	4.3
Krapinsko-Zagorska County	1	4	5	1.1
Primorsko-Goranska County	4	3	7	1.6
Sisačko-Moslavačka County	3	7	10	2.3
Splitsko-Dalmatinska County	5	5	10	2.3
Šibenska County	1	1	2	0.5
Varaždinska County	2	4	6	1.4
Zadarsko-Kninska County	10	6	16	3.6
Zagrebačka County	4	15	19	4.3
Other counties	10	12	22	5.0
Bosnia and Herzegovina, total	11	3	14	3.2
From cities/towns:				
Čapljina		1	1	0.2
Čitluk	1		1	0.2
Jajce	4	1	5	1.1
Livno	1	1	2	0.5
Ljubuški	1		1	0.2
Posušje	1		1	0.2
Široki Brijeg	2		2	0.5
Travnik	1		1	0.2
Total (Croatia and B&H)	181	258	439	100.0

### 3.2.3 Secondary Education of the First-Year Students

The secondary-school education and performance is one of the most important indicators of quality of the future students. The table below shows secondary schools from which the FAZ students graduated, as well as their average grades.

**Table 3.5**  
The first-year students by  
secondary education and average  
secondary school grades

Secondary school	Number of students	Share (%)	Average secondary school grade
Grammar school	208	47.4	4.4
Business	33	7.5	4.4
Electrical engineering	15	3.4	3.8
Graphical design	4	0.9	3.5
Chemistry	22	5.0	4.1
Agriculture	86	19.6	4.2
Food technology	11	2.5	4.3
Applied arts	5	1.1	4.2
Forestry	4	0.9	3.3
Veterinary medicine	12	2.7	3.8
Nursing	21	4.8	4.0
Other*)	18	4.1	3.9
Total	439	100.0	3.9

\*) Other schools: civil engineering, trade, road traffic, hotel management, teaching, etc.

The graduates who enrolled at the FAZ in the academic year 2007/2008 graduated from different secondary schools. The majority graduated from grammar school (47.4%) and agricultural school (19.6%). These are followed by graduates from the business school (7.5%), chemistry school (5.0%), nursing school (4.8%), and a number of other secondary schools. The schools and percentages do not vary

considerably from the previous years. Thus, during the previous academic year the highest number of students were grammar school and agricultural school graduates, only the number of agricultural school students was higher (25.9%).

An average grade for the students from all secondary schools is 3.9, same as in the previous academic year. The grammar school students had best average grade - 4.4.

### 3.3 Undergraduate Studies (since the academic year 1996/1997)

The so-called old undergraduate studies have been conducted at the Faculty of Agriculture since the academic year 1996/1997. This program is still being implemented only for the students admitted earlier, and for the last generation of students working according to this program of studies enrolled in 2004/2005.

This program is a 9-semester study with three study programs: Plant Science, Animal Science, and Landscape Architecture. Although these programs are independent, the initial semesters share natural science and socio-economic courses, and from the 5<sup>th</sup> semester the Plant Science and Animal Science programs branch into seven and three majors, respectively, while Landscape Architecture has no majors:

1. Plant Science (PS) study program, with seven majors: (i) Agricultural Economics (AEC), (ii) Agricultural Engineering (AEN), (iii) Agronomy (AGR), (iv) Land Management and Soil Protection (LMSP), (v) Pomology, Viticulture and Enology (HORT), (vi) Gardening (GARD), and (vii), Plant Protection (PP);
2. Animal Science (AS) study program, with three majors: (i) Dairy Science (DS), (ii) Animal Husbandry (AH), (iii) Fisheries (FISH);
3. Landscape Architecture (LA), is an interdisciplinary study with no majors.

The students who finish their undergraduate studies, prepare and defend their graduation theses earn an academic degree of graduate agricultural engineers (dipl. ing. agr.) in a specific major and program.

### 3.4 Enrolments - Old and New Study Program

The tables below show number of students by study programs (undergraduate and graduate) and study years during the academic year 2007/2008. In the academic year 2007/2008, the FAZ had 1,743 students, of which 1,035 undergraduate students studying according to the new study program and 708 students studying according to the old study program.

The largest number of undergraduate students studying according to the new program opted for Horticulture - 190, then Agroecology - 136, Animal Science - 135, Plant Science - 133, etc.

Breakdown by study years shows that 662 students were in the first, 209 students in the second, and 164 students in the third year.

Of 708 students studying according to the old program, the largest number is in Plant Science - 540, then Animal Science - 109, and Landscape Architecture - 59. It should be mentioned that some of the third-year undergraduate students in the academic year 2007/2008 were repeating their third year of studies.

**Table 3.6**  
Number of students by new undergraduate study programs and study years, academic year 2007/2008

Study program	Year			Total 1st-3rd
	1st	2nd	3rd	
Agricultural Economics	60	18	26	104
Agroecology	86	34	16	136
Animal Science	103	27	5	135
Plant Science	85	28	20	133
Organic Agriculture	75	9	16	100
Horticulture	98	52	40	190
Landscape Architecture	37	20	14	71
Agricultural Engineering	43	5	10	58
Plant Protection	75	16	17	108
Total	662	209	164	1035

**Table 3.7**  
Number of students by old undergraduate study programs/ majors and study years, academic year 2007/2008

Program/Major	Year			Total 3rd-5th
	3rd	4th	5th	
Plant Science, total of which majors:	43	230	267	540
AEC	5	32	34	71
AEN				
AGR	1	8	3	12
LMSP	1	19	11	31
HORT	19	78	116	213
GARD	2	54	54	110
PP	15	39	49	103
Animal Science, total of which majors:	9	56	44	109
DS		11	10	21
FISH	2	7	5	14
AH	7	38	29	74
Landscape Architecture	2	34	23	59
Total	54	320	334	708

The table below shows number of students by study years in the academic year 2007/2008 and in four previous academic years.

**Table 3.8**  
Number of the FAZ students by study years for the last five academic years

Study year/ Academic year	1st	2nd	3rd	4th	5th	Total
2007/2008*	662	209	218	320	334	1743
2006/2007*	526	217	377	374	251	1745
2005/2006*	423	441	389	256	177	1686
2004/2005	594	414	252	192	177	1629
2003/2004	538	416	285	182	149	1570

\*New study program

The data indicate that total number of students at the FAZ has been on increase during the last five years, and it should be noted that the numbers for the academic year 2006/2007 (1745 students) are very similar to the data for 2007/2008 (1743 students).

It should also be noted that during the last three academic years students enrolled in the new study program.

### 3.5 Tuition Fees (old and new study program)

In the academic year 2007/2008, the Ministry of Science, Education and Sports paid for 88.0% students and 12.0% students paid their own tuition fees (five study years average).

Depending on the study year, share of fees paid by the students ranges from 3.6% (5<sup>th</sup> year) to 33.5% (1<sup>st</sup> year).

Year	Funded by the Ministry (%)	Paid by students (%)
1st	66.5	33.5
2nd	91.1	8.9
3rd	93.3	6.7
4th	92.7	7.3
5th	96.4	3.6
Average	88.0	12.0

**Table 3.9**  
Tuition fees by funding source and study year, academic year 2007/2008

### 3.6 Student Performance - Old and New Study Program

The highest grades were achieved by students at the Landscape Architecture (4.05), then Horticulture (3.92), Agricultural Economics (3.76), Animal Science (3.72) and Organic Agriculture (3.72).

Generally, the second- and third-year students in all programs achieve better examination grades, which results in better average grades.

The students at the Landscape Architecture (3.61) achieved better grades than the students at Plant Science and Animal Science (3.20).

Study	Study year			Average 1st - 3rd
	1st	2nd	3rd	
Agricultural Economics	3.22	4.01	4.04	3.76
Agroecology	3.07	3.54	4.25	3.62
Animal Science	3.08	3.71	4.36	3.72
Plant Science	3.07	3.35	4.14	3.52
Organic Agriculture	3.15	4.13	3.87	3.72
Horticulture	3.47	4.13	4.17	3.92
Landscape Architecture	3.61	4.32	4.21	4.05
Agricultural Engineering	2.98	4.04	3.72	3.58
Plant Protection	3.13	3.59	3.62	3.45

**Table 3.10**  
Average grades by new undergraduate studies and study years (1<sup>st</sup> - 3<sup>rd</sup> study year) in the academic year 2007/2008

Study/Major	Study year		Average 4th - 5th
	4th	5th	
Program/Major			
Plant Science	3.15	3.10	3.13
Plant Science	3.17	3.17	3.17
AEC	3.15	3.41	3.28
AEN	3.17	3.12	3.15
AGR	3.04	3.24	3.14
LMSP	3.45	3.27	3.36
HORT			
GARD	3.29	3.21	3.25
PP	3.18	3.44	3.31
Animal Science	3.03	3.06	3.05
DS			
FISH	3.51	3.71	3.61
AH			

**Table 3.11**  
Average grades by old undergraduate studies/majors and study years (4<sup>th</sup> and 5<sup>th</sup> study year) in the academic year 2007/2008

#### 3.6.1 Average Grades

### 3.7 Field Trips

FAZ is specific for its field trips which are organized for the students to learn about the Croatian natural, economic and agricultural resources and major production facilities, and to analyse field trip results and major production systems. The students usually travel by vehicles owned by the FAZ (coach, minivan) or by means of public transportation.

From early September 2007 to late June 2008, the FAZ students spent 123 days on field trips, of which 64 days during the summer semester (most trips in April and May), and 48 days during the winter semester (mostly in October).

**Table 3.12**  
Field trip days during the academic year 2007/2008

Year	Month	Field trip duration	
		Days	Share of month (%)
2007	September	7	5.7
	October	17	13.8
	November	11	8.9
	December	7	5.7
2008	January	13	10.6
	February	4	3.3
	March	8	6.5
	April	24	19.5
	May	19	15.5
	June	13	10.6
Total		123	100.0

During their field trips, the students visited processing plants, vegetables, field crops and fruit producers, vineyards and winemakers, and animal farms. The trips were organized to areas with abundant indigenous and park flora (national parks, nature parks, etc.).

The students also visited the FAZ experiment stations including the Center for Grasses at Mt. Medvednica, Jazbina Experiment Station for pomology, viticulture and enology, and Josip ban Jelačić, Prodom Hunting Grounds in Buzeta near Glina.

### 3.8. Academic Year 2007/2008 Graduates

During the reporting period, 225 students graduated from the FAZ, which is the highest number for the last five years. The data for the five-year period are tabulated below, including the students who graduated according to both old and new program, i.e. the study programs implemented until and since the academic year 1996/1997.

**Table 3.13**  
Number of graduates, academic years 2003/2004 to 2007/2008

Academic year	Study program		Total
	until academic year 1996/1997	until academic year 1996/1997	
2007/2008	29	196	225
2006/2007	90	134	224
2005/2006	44	95	139
2004/2005	65	74	139
2003/2004	91	50	141

During the academic year 2007/2008, 196 students graduated according to the old study program (effective since 1996/1997), which is 62 graduates more compared to the previous academic year (134 students). Most students graduated in Pomology, Viticulture and Enology (63), with the highest number of students among all majors, then in Gardening (38) and Plant Protection (35).

Major/Study Program	Graduates
Agricultural Economics	19
Diary Science	8
Agronomy	1
Fisheries	2
Animal Husbandry	7
Landscape Architecture*	19
Land Management and Soil Protection	4
Pomology, Viticulture and Enology	63
Gardening	38
Plant Protection	35
Total	196

\*Study program

### 3.8.1 Study Program since the Academic Year 1996/1997

Table 3.14  
Number of 2007/2008 graduates by major/study program in effect since the academic year 1996/1997

During the reporting period, 29 students graduated according to the old study program effective until the academic year 1996/1997.

Major	Graduates
Agricultural Economics	1
Agricultural Engineering	2
Agronomy	4
Animal Husbandry	7
Pomology, Viticulture and Enology	3
Gardening and Landscape Architecture	6
Plant Protection	6
Total	29

### 3.8.2 Old Study Program in Effect until the Academic Year 1996/1997

Table 3.15  
Number of 2007/2008 graduates by majors of the study program in effect until the academic year 1996/1997

## 3.9. Undergraduate Studies Taught by the FAZ Teaching Staff at Other Croatian and Foreign Higher Education Institutions

In addition to their engagement at the Faculty of Agriculture, some members of the FAZ staff teach at other faculties and universities in Croatia and abroad (Bosnia and Herzegovina in particular, and Slovenia). In Croatia, the FAZ professors teach and participate as members of dissertation proposal evaluation commissions at the several faculties at the University of Zagreb and other Croatian universities (Split, Osijek and Zadar) and Knin Polytechnic.

Some lecturers from other faculties, although in small numbers, teach at the FAZ, particularly at the interfaculty study of Landscape Architecture. Some lecturers from other faculties of the University of Zagreb and other universities and institutions teach at the FAZ postgraduate (doctoral) studies, and participate as members of dissertation proposal evaluation commissions, in higher rank appointment procedures, and the like.

During the academic year 2007/2008, the FAZ lecturers and teaching associates were engaged in undergraduate, graduate and professional studies coordinated or (co) founded by the FAZ:

**3.9.1**  
**Inter-University**  
**Undergraduate Study in**  
**Mediterranean Agriculture,**  
**Split**

Program Coordinators: Professor Mirjana Herak Ćustić, PhD (FAZ) and Professor Ivan Pejić, PhD (FAZ)

Study Coordinator: Boško Miloš, PhD, Institute for Adriatic Crops and Karst Reclamation, Split

The Mediterranean Agriculture study is organised as an inter-university undergraduate study and carried out by lecturers and teaching associates from the University of Zagreb Faculty of Agriculture, University of Split (particularly Faculty of Natural Sciences, Mathematics and Kinesiology), and the Institute for Adriatic Crops and Karst Reclamation. This six-semester undergraduate study structure is tailored to the requirements of the Bologna process (180 ECTS credits).

The Faculty of Agriculture has proposed the study program concept, developed the syllabus, and provided most of necessary teaching staff. The facilities and administration for implementation of the study program is provided by the University of Split, entrance procedure for the first study year is determined by the FAZ, graduation diplomas are issued jointly by the two Universities, and the graduation ceremonies for the bachelors are held in the City of Split.

The Mediterranean Agriculture study program has been implemented since the academic year 2005/2006. Sixty-five students were studying at the Mediterranean Agriculture study program in the academic year 2007/2008, of which 30 students at the 1<sup>st</sup> year, 25 at the 2<sup>nd</sup> year, and 15 students at the 3<sup>rd</sup> year.

The Mediterranean Agriculture study program implementation is regulated by an Agreement on Organisation and Implementation of the Undergraduate Studies in Mediterranean Agriculture in Split of 10 October 2005. During the academic year 2006/2007, the Agreement was amended by an Annex establishing the Study Coordination Board and detailing the study program funding.

During the reporting period, another lecture hall was reconstructed at the Institute for Adriatic Crops and Karst Reclamation to receive the Mediterranean Agriculture students and staff, so two are available now, while fitting of two multifunctional laboratories with equipment and a room for the study administrator is underway.

**3.9.2**  
**Collaboration between the**  
**University of Zagreb Faculty**  
**of Agriculture (FAZ) and the**  
**University of Mostar Faculty**  
**of Agriculture in Teaching and**  
**Scientific Research Area**

**Coordinator:**  
**Professor Milan Poljak, PhD**

Collaboration between the two Faculties of Agriculture is motivated by the desire to enable the Mostar students to gain higher education of adequate quality and provide for capacity building and independence of the Mostar Faculty of Agriculture in the future.

The Agreement on Collaboration in Teaching and Scientific Research Area between the FAZ and Mostar Faculty of Agriculture was signed on 6 February 2006. The Agreement sets a framework for collaboration in creation of new curricula, participation of the FAZ staff in particular segments of the Mostar Faculty of Agriculture teaching process, etc.

Pursuant to the study program changes in line with the Bologna Declaration, the Mostar Faculty of Agriculture accepted reorganisation of the university studies, introduced the 3+2+3 model, and has been performing the General undergraduate studies according to this model since the academic year 2005/2006.

Based on this collaboration, 15 members of the Zagreb Faculty of Agriculture teaching staff were participating in the teaching activities at the Mostar Faculty of Agriculture undergraduate studies in the academic year 2007/2008.

The six-semester Karst Agriculture study (180 ECTS) was introduced and has been performed since the academic year 2005/2006. The teaching staff in programs Karst Agriculture – Plant Production and Karst Agriculture – Karst Cattle Breeding comes mainly from the University of Zagreb Faculty of Agriculture.

Study	Admission quotas 1st semester enrolments		
	Number	Number	Share (%)
Plant production	30	23	76.7
Karst cattle breeding	30	21	70.0
Total	60	44	73.3

During the academic year 2007/2008, 44 students enrolled in the 1<sup>st</sup> semester of the Karst Agriculture study, of which 23 in Plant Production and 21 in Karst Cattle Breeding.

Study	Year			Total 1st-3rd
	1st	2nd	3rd	
Plant production	28	10	3	41
Karst cattle breeding	22	10	2	34
Total	50	20	5	75

During the academic year 2007/2008, 75 students enrolled in the Karst Agriculture study, of which 41 in Plant Production study and 34 in Karst Cattle Breeding.

By study years, the 1<sup>st</sup> year has 50, the 2<sup>nd</sup> year 20, and the 3<sup>rd</sup> year 5 students.

### 3.10 Postgraduate (Doctoral) Studies

In the past, the Faculty of Agriculture had seven four-semester postgraduate study programs:

- |                            |  |
|----------------------------|--|
| - Agroecology              | Coordinator: Professor Željko Vidaček, PhD       |
| - Plant Science            | Coordinator: Professor Zvonko Mustapić, PhD      |
| - Agricultural Economics   | Coordinator: Professor Tito Žimbek, PhD          |
| - Phytomedicine            | Coordinator: Professor Jasminka Igrc Barčić, PhD |
| - Agricultural Engineering | Coordinator: Professor Josip Barčić, PhD         |
| - Animal Science           | Coordinator: Professor Jasmina Havranek, PhD     |
| - Fisheries                | Coordinator: Professor Tomislav Treer, PhD       |

Towards the end of 2002 and early in 2003, three new postgraduate (doctoral) study programs tailored to the ECTS credits system were accredited pursuant to the Scientific Research and Higher Education Act in effect at the time:

- |  |  |
|--|--|
| - Plant Breeding and Genetics                  | Coordinator: Professor Vinko Kozumplik, PhD  |
| - Animal Science, Dairy Science and Apiculture | Coordinator: Professor Jasmina Havranek, PhD |
| - Fisheries                                    | Coordinator: Professor Tomislav Treer, PhD   |

#### 3.9.3 Professional Study in Karst Agriculture, Marko Marulić Polytechnic, Knin

Head: Marina Krvavica, MSc

**Table 3.16**  
Admission quotas, number and share of students in the 1st semester studies at the Knin Polytechnic during the academic year 2007/2008

**Table 3.17**  
Number of Knin Polytechnic students by study programs and study years in the academic year 2007/2008

#### 3.10.1 Postgraduate Study Programs until 2005/2006

All ten postgraduate studies are still implemented, and some postgraduate students transferred from the old to the new postgraduate (doctoral) studies. However, no new students are admitted into the old postgraduate studies, so the program is carried out only for the students which had enrolled earlier.

**3.10.2**  
**Postgraduate Study Programs**  
**since the academic year**  
**2005/2006**

■ **Postgraduate Doctoral Study in Agricultural Sciences**

The academic year 2007/2008 is the third academic year in which the Faculty of Agriculture admits students into the postgraduate doctoral study in Agricultural Sciences. The program covers practically all scientific branches of the scientific field of agriculture, and it is organized on the basis of 180 ECTS (<http://www.agr.hr/eng/teaching/phd/index.htm>). Two modules are compulsory: Scientific and Research System and the mentor's module, in addition to three elective modules selected by a student in consultations with the mentor, which provides the students with an option to combine between more than 70 modules from this study program (list of modules: <http://www.agr.hr/eng/teaching/phd/as/index.htm#>) and modules from other doctoral studies offered in Croatia and abroad (30 ECTS credits). Scientific research is considered very important, there is an obligation to publish works and present them at professional conferences (120 ECTS credits), and to successfully complete the dissertation (30 ECTS credits). An increasing interest in this study program indicates that it is well conceived, which in turn demands its permanent development and increase in quality.

**Postgraduate Doctoral Study in Agricultural Economics**

The postgraduate doctoral study in Agricultural Economics has been implemented since the academic year 2007/2008.

**Specialised Postgraduate Study in Fisheries**

The specialised postgraduate study in Fisheries has been implemented since the academic year 2006/2007.

**Number of Students in Postgraduate Study Programs**

During the academic year 2007/2008, 37 students enrolled in the postgraduate doctoral study in Agricultural Sciences, which is somewhat higher enrolment rate compared to the previous reporting periods, i.e. 33 students during the academic year 2006/2007, and 21 students during the first year of the program implementation (academic year 2005/2006).

During the academic year 2007/2008, 10 students enrolled in the postgraduate doctoral study in Agricultural Economics.

During the academic year 2007/2008, three students enrolled in the postgraduate study in Fisheries, same as during the previous academic year.

**Number of Students who Achieved Master's Degree**

During the reporting period, 10 students received the master's degree. Of ten students who successfully defended their theses, seven graduated from the FAZ, two from the Maribor Faculty of Agriculture, and one from the University of Osijek Faculty of Agriculture.

Study	Students
Plant Science	5
Agricultural Economics	1
Phytomedicine	2
Genetics and Plant Breeding	1
Animal Science	1
Total	10

**Table 3.18**  
Number of postgraduates who received master's degree during the academic year 2007/2008 by study programs

Number of students who achieved the master's degree during the reporting period is smaller than the number for the previous period (11), but this is due to phasing out of some of the old programs.

During the past five-year period, most of students who achieved the master's degree studied at the Plant Science, i.e. 26 or 32.9% of total 79 students that achieved their master's degree, then Animal Science with 11 students, and Agricultural Economics with 10 masters, etc.. A five-year average is 16 masters of science a year.

Study / Academic year	2007/2008	2006/2007	2005/2006	2004/2005	2003/2004	Total	
						Nr	%
Agroecology		1	4	3	1	9	11.4
Plant Science	5	3	6	6	6	26	32.9
Agricultural Economics	1	1	2	4	2	10	12.7
Phytomedicine	2	1	3	2		8	10.1
Agricultural Engineering		1		4	3	8	10.1
Fisheries*		2	1	1	3	7	8.9
Animal Science**	1	2	3	2	3	11	13.9
Total	9	11	19	22	18	79	100.0

**Table 3.19**  
Number of postgraduates who achieved master's degree during the five-year reporting period by study programs

\*Fisheries, old and new program (since 2002)

\*\*Animal Science (until 2002), and Animal Science, Dairy Science and Apiculture (since 2002).

Postgraduate studies are responsibility of two boards: Specialised Postgraduate Studies and Master's Degree Board and Postgraduate Doctoral Studies and Doctor's Degree Board.

#### Report of the Specialised Postgraduate Studies and Master's Degree Board

The sessions of the Specialised Postgraduate Studies and Master's Degree Board are usually convened once a month, except in August. During the reporting period, a large number of issues was resolved regarding all the study programs, election of the thesis proposal evaluation commissions, thesis proposal evaluation and master's thesis grading, and resolving of related issues.

The Board initiated an evaluation procedure for specialised postgraduate studies in Management in Agribusiness and Animal Husbandry.

#### Report of the Postgraduate Doctoral Studies and Doctor's Degree Board

The Postgraduate Doctoral Studies and Doctor's Degree Board handles the issues related to the dissertations from the dissertation proposal to its defence. The Board sessions are usually convened once a month, and the Board is presided by Professor Marija Pecina, PhD. During the reporting period, the Board received and resolved 51 dissertation proposals, of which 29 proposals by students from the postgraduate doctoral study in Agricultural Sciences, and the rest from students not attending the doctoral studies (candidates with master's degree). Twenty-three proposals were evaluated, and 10 dissertations were publicly defended. The Board Rules of Procedure preparation entered its final stage.

### 3.11 Dissertations

During the reporting period, 8 doctoral dissertations were defended in a number of scientific branches, which is less than in the previous reporting period. According to the available data, the five-year average is 10 dissertations, so the result for the reporting period is slightly below the average.

Among eight candidates that successfully defended their dissertations, five work at the Faculty of Agriculture in Zagreb.

Table 3.20  
Number of defended  
dissertations at the FAZ  
during the five reporting periods

Reporting period	2007/2008	2006/2007	2005/2006	2004/2005	2003/2004
Number of candidates	8	13	11	13	7

### 3.12 Project: Agribusiness Higher Education Development

Activities related to implementation of TEMPUS AHEAD Project (Agribusiness Higher Education Development, Project code: CD-JEP 19009-2004) started in September 2005, and they are scheduled to finish late in August 2008. Project Contractor is University of Debrecen Faculty of Agricultural Economics and Rural Development, Professor László Kárpáti, PhD (Hungary). The Project Coordinator is University of Zagreb Faculty of Agriculture (Coordinator: Assistant Professor Josip Juračak, PhD) and it has been joined by four European and eight Croatian partners. The final activities are underway on this project whose objective is development of study programs in agribusiness, and food safety and quality.

### 3.13 2007/2008 Student Survey

Student Survey aimed at evaluation of the Faculty teaching staff work was carried out twice during the academic year 2007/2008: 14-25 January 2008 for the winter semester, and from 26 May to 6 June 2008 for the summer semester. The survey was conducted in line with the instructions of the Quality Management Office of the University of Zagreb. The Survey covered teachers/teaching assistants and 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year modules of undergraduate studies, and the results analysis is under way.

Students' evaluation of one of teaching process valuation aspects, and the results need to be combined with other indicators of teaching process quality.

## 4. Scientific Research and Professional Activities

### 4.1 Introduction

An abundant scientific and professional production of the FAZ is attributable to its staff and their education. Of total number of the FAZ full-time staff (N=427), 33.5% researchers have doctor's degree and 7.5% have master's degree. Compared to the previous year, number of researchers with doctor's degree did not change, since five members of the FAZ staff achieved doctor's degree and five ceased working at the FAZ (retirement, contract termination, death). The number of staff with master's degree decreased during the reporting period, since five former masters became doctors, and only two new masters of science started working at the FAZ. One of them is member of the FAZ staff who achieved his master's degree in this period, and the other is a newly employed member of the FAZ staff. This reporting period is the first period since 2004 in which the number of staff with doctor's degree has not increased, while number of masters has been on decline since 2006.

Reporting year*	2004	2005	2006	2007	2008
Doctor's degree	122	129	135	143	143
Master's degree	40	40	45	35	32

**Table 4.1**  
Number of FAZ employees with doctor's/master's degree, 2004-2008

\* as of 31 May of respective year

Inflow rates of junior researchers increased considerably during this reporting period, and they guarantee revival of the scientific research at the FAZ. During the reporting period, the FAZ employed 16 new junior researchers, so their total number is 73 or almost 30% of total number of professors and teaching associates (N=245) at the Faculty of Agriculture.

The FAZ teachers and researchers are involved in implementation of development and applied research projects, and they actively participate in professional collaboration. Most projects are funded by the Ministry of Science, Education and Sports, and applied agricultural and related research is supported by the Ministry of Agriculture, Fisheries and Rural Development namely by its Agricultural Research Council (ARC) and Preparation of Agricultural Products Marketing.

Productive professional collaboration was established with different clients (institutions, national and local administration, business sector, NGOs, and other clients). The FAZ researchers also participated in international development and applied research projects.

#### 4.2 Projects Contracted with the Ministry of Science, Education and Sports

On 1 January 2007, a new three-year research period (which might be extended to five years) started for the projects funded by the Ministry. Within the permanent research projects program, the Faculty of Agriculture researchers were approved 79 scientific research projects in December 2006, which is a considerable increase compared to the previous research period (2002-2006) when altogether 62 projects were funded by the Ministry. This is a result of successfully completed projects from the previous period, and due to exceptional scientific reputation of the FAZ staff. (List of Projects is attached to this Annual Report.) During the reporting period, another 14 scientific research projects were approved, thus total number of approved scientific research projects is 93.

The Ministry called for proposals for a new scientific research projects funding cycle according to the new conditions based on international experience. Merging is encouraged of several scientific research projects into larger programs that have an advantage of being interdisciplinary and interregional, and the applied projects/programs undergo international peer review. The FAZ researches applied 33 programs, and 15 were approved by the peer review. (List of Programs is attached to this Annual Report.) Some researchers and their projects are also included in projects and programs of other mainly higher education institutions in Croatia, and a number of researchers outside the FAZ got involved on the FAZ projects/programs.

#### 4.3 Projects Contracted with the Ministry of Agriculture, Fisheries and Rural Development

Results of the research projects supported by the Agricultural Research Council (ARC) and Preparation of Agricultural Products Marketing have found their application in agricultural practice, particularly on family farms, and have proven helpful for the national, regional and local administration staff. Some projects are implemented together with the Croatian Extension Service in order to improve its operations. The research results have also contributed to education of the FAZ students, to retraining of junior researchers and their involvement in scientific research and professional projects. (List of ARC Projects is attached to this Annual Report.)

#### 4.4 Projects Contracted with National and Regional Administration, Companies and Entrepreneurs

Professional activities performed by the FAZ researchers, generally based on the results of their scientific research and carried out in line with the collaboration agreements, include practical and extension services rendered to the local, regional and national authorities, businesses and institutions, family farms and other stakeholders and clients. These activities focus on resolving of different agricultural problems, for which the studies, project documentation and reports are prepared, supervisions conducted, surveys and monitoring systems set up, and analyses and other forms of professional services delivered.

During the reporting period, 151 collaboration agreements were concluded by individual FAZ departments. Some of them are long-term agreements. The number of contracted projects during five reporting periods is shown in the table below.

Reporting period	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Number of agreements*	111	135	109	124	151
Index 2003/2004=100	100	121.6	98.2	111.7	136.0

\* Acc. to data from the FAZ registry book for the respective years.

**Table 4.2**  
Agreements signed by FAZ and FAZ departments, 2003/2004 to 2007/2008

The trend of increase in number of signed professional collaboration agreements signed continues. Since 2004, the reporting period has been the period with the highest number of signed agreements. However, the departments do not evenly participated in contracting and signing of the agreements. during the reporting period, the largest number of agreements (20) was signed between the Faculty itself and business partners. Among the departments, most agreements were signed by the Department of Viticulture and Enology (17). Department of Soil Amelioration signed 15 agreements, and the Department of General Agronomy signed 13 agreements.

#### 4.5 Junior Researchers

Seventy-three junior researchers were employed at the FAZ as of 31 May 2008. During the reporting period, 16 junior researchers were employed, and two members of staff became junior researchers. During the previous reporting period, the Faculty had 60 junior researchers. Therefore, there should be 78 junior researchers. However, two junior researchers became assistant professors, two teaching assistants, and one left the FAZ, thus total number is 73 junior researchers, 35 male and 38 female.

The junior researchers were employed upon approval of the Ministry of Science, Education and Sports funding respective projects. Six junior researchers have doctor's, and 14 master's degree. Other junior researchers are graduate agricultural engineers (51), one is biology teacher, and one psychology teacher. Generally, the number of junior researchers increased during the five-year period.

Year	2004	2005	2006	2007	2008
Number	41	55	56	60	73
Index 2004=100	100	134.1	136.6	146.3	178.0

**Table 4.3**  
Junior researchers at the FAZ during five-year period (2004-2008)

As of 31 May of respective year

The junior researcher activities, which are crucial for success of educational and scientific research revival at the FAZ, are coordinated by 58 professors-mentors. One of them is mentor to 3 junior researchers, 13 mentors have two junior researchers each, while the remaining 44 mentors work with one junior researcher each.

#### 4.6 Presentation and Dissemination of Research Results

All FAZ researchers responded to the Annual Report Editorial Board invitation to submit reports on their scientific research and professional activities during the reporting period. The summary presentation of the results of their scientific research and professional activities is given in the table below, enlisting papers published in scientific and professional journals, papers published in proceedings from congresses and conferences (both as complete papers or abstracts), books, completed projects, seminars, workshops, etc.

**Table 4.4**  
The FAZ researchers publications/  
activities for the reporting periods

Publications	Reporting period				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Papers published in scientific journals	131	179	180	158	256
Papers published in proceedings (congresses and conferences)	193	284	210	306	238
Papers published in professional journals	58	168	246	197	149
Books	19	31	20	13	13
Studies	54	54	87	93	63
National projects	210	237	210	247	212
International projects	22	25	27	33	23
Conferences, specialised forums, workshops, etc.	48	65	67	60	41
Specialised lectures, product evaluation, appearance in public media	231	312	289	261	120
Additional scientific and professional education	62	72	71	58	82

During the reporting period, as many as 256 papers were published in scientific journals, which is the highest number in the past five years. However, number of papers published in professional journals and proceedings is somewhat lower than in the previous year. Number of national and international projects and studies also decreased compared to the previous year. However, this is still considered a successful year with good results which agree with a long-term average. During the reporting period, the FAZ researchers published 13 books and 63 studies as authors and co-authors, rendered 120 specialised lectures, and participated product evaluations and appearances in public media.

During the reporting period, 82 junior researchers attended retraining courses at national and international institutions, which is the highest number during the past five years.

Total scientific and professional production expressed in number of published papers per researcher is shown below.

**Table 4.5**  
Papers published in journals and  
proceedings as per researcher<sup>1)</sup>

	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Papers published in journals, total	0.99	1.65	1.93	1.57	1.65
- scientific papers	0.69	0.85	0.82	0.70	1.04
- professional papers	0.30	0.80	1.11	0.87	0.61
Papers published in proceedings	1.01	1.35	0.95	1.35	0.97
Total per researcher	2.00	3.00	2.88	2.92	2.62
Number of researchers	191	210	221	227	245

<sup>1)</sup>In addition to all the professors and teaching associates, the term researcher also refers to junior researchers (acc. to the data from the FAZ Annual Reports, section: Organisation, subsection: Professors and Teaching Associates).

Total *per capita* scientific and professional production shows some fluctuations during the period under consideration. The number of researchers is on permanent increase (18 more than in the previous year), and the production of scientific papers in the reporting period is highest (1.04 *per capita*). However, such presentation of scientific and professional activities and achievements is not completely reliable, since it does not refer to indicators of quality of works, indexation, papers of category a<sub>1</sub>, etc.

The above numbers clearly indicate that the FAZ scientific researchers have very good standing in both Croatian and international professional community. This is clearly confirmed by numerous awards and other recognitions the FAZ researchers have been receiving in scientific and professional field of agriculture and related sciences for many years.

## 5. Experiment Stations

### 5.1 Introduction

The FAZ experiment stations are used for teaching, scientific research and professional activities. Presently, FAZ has six experiment stations:

- Maksimir - 25 Svetošimunska St., Zagreb (in the FAZ neighbourhood),
- Jazbina (142), Zagreb (a couple of kilometres from the FAZ campus),
- Sljeme Center for Grasses at Mt. Medvednica,
- Historical Gardens and Landscape Development Center, Dubrovnik,
- Josip Ban Jelačić, Prolom state-owned hunting grounds III/29, Buzeta (some ten kilometres from the City of Glina),
- Šašinovečki Lug, Šašinovec near Sesvete, in the process of setting up (located some 15 km from the FAZ campus).

The Agriculture and Food Institute was founded during the reporting period by the decision of the Zagreb Commercial Court of 22 October 2007. Co-founders are FAZ and Tobacco Institute, Zagreb.

Experiment stations at Maksimir, Jazbina, Sljeme and Dubrovnik have been managed and owned by the FAZ for a long time, while Prolom Buzeta and Šašinovečki Lug are of a more recent date. Experiment station Prolom is owned by the Republic of Croatia and it was turned over to the FAZ based on a 30-year concession agreement signed in 2006. Šašinovečki Lug Experiment Station has been owned by the FAZ since July 2007.

The FAZ is fully responsible for experiment stations Prolom Buzeta and Šašinovečki Lug, while other experiment stations are managed by the FAZ departments.

The experiment station at Maksimir (25 Svetošimunska St.) is managed by five departments, the one at Jazbina by two, and Sljeme (Mt. Medvednica) and Dubrovnik Centres are managed by one department each.

### 5.2 Experiment Stations Production Capacities (Land and Livestock)

Land and plantations, including

- 301.4 ha of plowland and gardens;
- 2.0 ha of orchards and 0.6 ha of fruit cultivar and clone collection, trials with rootstock and cultivars of a number of fruit trees;
- 8.5 ha of vineyards and 0.5 ha of rootstock mother vine collection;
- 1,000 ha of meadows;
- 1,257 ha of grassland (pastures) and 2.5 ha of micro trial grassland;
- 5,233 ha of forests.

Livestock (experimental animals), Center for Grasses:

- breeding cows (40) and calves, breeding heifers (10), bulls (2) (Charolais);
- breeding sheep (20) and lambs, and breeding rams (2) (Charolais).

The Prolom Hunting Grounds manages the following game: red deer (in transit), roe, boar, and pheasant. Game breeding IS according to the Hunting Master Plan: roe, boar, common hare, and pheasant.

#### 5.1 Experiment stations land area and management

Experiment station	Land area (ha)	Managed by (FAZ/Department)
Maksimir, total	21.5	
(a) Field production	9.0	Department of Field Crops, Forage and Grassland
(b) Vegetable crops	2.0	Department of Vegetable Crops
(c) Plant breeding	5.0	Department of Plant Breeding, Genetics, Biometrics and Experimentation
(d) Seed production	4.5	Department of Seed Science and Technology
(e) Ornamental plants	1.0	Department of Ornamental Plants, Landscape Architecture and Garden Art
Sljeme Center	65.5	Department of Field Crops, Forage and Grassland
Jazbina, total <sup>1)</sup>	11.6	
(a) Viticulture and Enology	9.0	Department of Viticulture and Enology
(b) Pomology	2.6	Department of Pomology
Dubrovnik Center	0	Department of Ornamental Plants, Landscape Architecture and Garden Art
Prolom Hunting Grounds	7,635.0	FAZ
Šašinovečki Lug	78.9	FAZ
Total	7,812.4	

1) Total fenced area of the Jazbina Experiment Station is about 25 ha.

### 5.3 Experiment Stations Completely Managed by FAZ

#### 5.3.1 Šašinovečki Lug Experiment Station

According to the available historical data, the Šašinovečki Lug Experiment Station area was Zagreb Body of Canons called Kašina Južna in 1917. In 1919, the Body sold this property to the Faculty of Agriculture and it managed it until 1947, when the land was taken over by the Farmers' Cooperative. After dissolution of cooperatives, the land was transferred to the Sljeme company, and subsequently to Sesvete Agricultural Station which used it together with the Croatian Agricultural Center whose successor is the Croatian Animal Breeding Center.

By a decision of the Croatian Government and signing of an agreement on 11 July 2007, Šašinovečki Lug Experiment Station was transferred to the FAZ.

The Šašinovečki Lug Experiment station cultivates surface area of 76.8 ha, and has seven employees. the majority of area is used for production of seeds of winter and spring wheat, oat, rye, seeds of corn, soybean, and stock pea. the experiment station is fitted with the processing facility which processes and packages 300–500 tons of seed a year. In addition to the seed production, the Šašinovečki Lug Experiment Station is one of sites used for trials for recognition of newly created cultivars – plant hybrids. Additionally, the trials are set up for individual departments and outside companies.



Researchers and technical staff: Nikica Šprem, BSc – researcher and Hunting Master Plan coordinator, Štefan Pentek – hunt master and game keeper, Professor Nikola Kezić, PhD – apiculture at the hunting grounds, Assistant Professor Dragan Bubalo, PhD – apiculture at the hunting grounds, – researcher, Assistant Professor Dubravko Mačević, PhD – researcher, Professor Ivan Kolak, PhD – researcher, Professor Milan Poljak, PhD – researcher

### 5.3.2

**Josip Ban Jelačić Experiment Station – Prolom State Hunting Grounds (III/29) – Buzeta**

**Manager - Professor Zvonko Mustapić, PhD**

#### Founding

This experiment station was founded as a scientific research and teaching station at the state-owned Prolom Hunting Grounds (III/29), and the Faculty signed the management concession for 30 years.

The farm yard and buildings with equipment and machinery are kept in an abandoned school building at the Buzeta village. The City of Glina Council passed a Decision according to which the school and the appurtenant cadastral plots were given to the FAZ for its permanent use, and the procedure for entry into the land records is under way.

The experiment station accommodates practical work for the Hunting module, and it is planned that the four hunting modules in the new graduate studies program (master's) in Fisheries and Hunting will also be held here. The experiment station is suitable for teaching activities in numerous other disciplines (Botany, Phytocenology, Grassland Management, Soil Science, etc.). In addition to the field trips, the experiment station is used for students' practice, and for research studies for the graduation and masters' theses and dissertations. Currently, research is being conducted for two scientific projects and one dissertation.

#### Resources

##### Land

Surface area of the hunting grounds is 8,130 hectares, and the farm yard has about 1 ha.

##### Equipment

The experiment station has two tractors and machinery needed for the works planned under the Hunting Master Plan (plough, disk harrow, harrow, forage spreader, tractor trailer, two motor saws), an Opel Frontera and two old Land Rovers - Defenders in good condition.

##### Livestock

There are no domestic animals at the experiment station.

##### Other

Contraction of venison cutting, processing and storage facility, which is requested under the Hunting Act to be available at all hunting grounds, is almost finished. All necessary equipment has been procured (two cool storages, benches, etc.) and is currently being installed. So this facility will become a laboratory for meat testing and trials and research studies on venison.

### Teaching Activities

#### Lectures

During the academic year 2007/2008, all the teaching activities foreseen for the Hunting module according to the study program were carried out at the experiment station.

#### Practical work

The practical work for the Hunting module was performed (building of hunting facilities, sowing and cultivation of coverts, weapons, ammunition and ballistics, game trails, game protection measures, orientation in natural environment, trophy assessment, hunting safety, hunters' code of ethics, venison and skin management practices).

#### Students' practice

In 2008, two students performed their practice at the experiment station. The practice program will be further elaborated by the course teaching staff, Professor Roman Safner, PhD and junior researcher Nikica Šprem, BSc.

#### Other

A number of students applied with their graduation theses on hunting, and the observations and research work will be carried out at the experiment station.

### Scientific Research

#### Scientific projects

- Treer, T. : Biological Principles in Hunting and Fisheries, funded by the Ministry of Science, Education and Sports (some research activities will be carried out at the experiment station).
- Maćešić, D.: Feeding Potential of Forage Crops for Wildlife, funded by the Ministry of Science, Education and Sports (some research activities will be carried out at the experiment station).

#### Graduation and Masters' Theses, Dissertations

No graduation thesis was defended during this year, but two theses are planned for the next year and the research activities will be performed at the experiment station. Currently, research studies are underway for a dissertation of teaching assistant Nikica Šprem, BSc.

#### Other Activities

All works planned by the Hunting Master Plan are being carried out on regular basis (management of hunting grounds and facilities, cultivation of crop and fodder plants in coverts, maintenance and revival of pastures, game protection measures, organisation of hunts).



Researchers: Professor Zlatko Čmelik, PhD; Professor Nikola Pavičić, PhD; Assistant Professor Tomislav Jemrić, PhD; Zoran Šindrak, Jasmina Družić, MSc; Ana Kovač, BSc; Jelena Ugarković, BSc.

Founding: For teaching and scientific research purposes

#### Resources

Land: 1.5 ha under fruit of which: 1.0 ha strawberries, 0.3 ha apples and pears, 0.2 ha nursery

#### Equipment

Department of Pomology uses the equipment available at the experiment station.

#### Teaching Activities

The experiment station is used for practical work for a number of modules, primarily in pomology.

#### Scientific Research

The experiment station has been carrying out the City of Zagreb project Out-of-Season Organic Strawberry Production; Project Leader: Assistant Professor Boris Duralija, PhD.

#### 5.3.3

#### Pomology Department of Pomology

Manager: Assistant Professor  
Boris Duralija, PhD

### 5.4 Experiment Stations Managed by the FAZ Departments



Researchers and technical staff: Professor Boris Varga, PhD; Professor Zvonimir Štafa, PhD; Professor Zvonko Mustapić, PhD; Professor Ana Pospišil, PhD; Professor Milan Pospišil, PhD; Professor Jasminka Butorac, PhD; Assistant Professor Dubravko Maćešić, PhD; Assistant Professor Zlatko Svečnjak, PhD; Assistant Professor Željko Jukić, PhD; Darko Uher, PhD

#### Founding

This experiment station was founded as a scientific research and teaching facility in Maksimir, in the vicinity of the Faculty of Agriculture. The experiment station is used for teaching different undergraduate and graduate study modules, primarily those related to the field crops, industrial and fodder crops, grassland management - all disciplines covered by the Department of Field Crops, Forage and Grassland. The experiment station is also suitable for teaching in numerous other disciplines (Botany, Phytocenology, Grassland Management, Soil Science, Plant Nutrition, Plant Protection, Machinery, etc.). In addition to the field trips, the experiment station is used for students' practice, and research studies for the graduation and masters' theses and dissertations. Currently, research is being conducted for seven scientific projects.

#### 5.4.1

#### Maksimir Experiment Station Field Production Department of Field Crops, Forage and Grassland

Manager – Assistant  
Professor Dubravko Maćešić,  
PhD

## Resources

### Land

The experiment station consists of 7.5 ha of fenced land on the east side of the Svetošimunska St., divided into three units on which the field trials with corn, wheat (and similar cultures) and soybean alternate. In addition to this part of the experiment station, the Department researchers use about 1.5 ha of fenced area on the west side of the Svetošimunska St. for trials with sugar and stock beat, rape, small grains, flax, some forage crops, sweet potato and beans (Department of Vegetable Crops) and occasionally with stubble crops. A part of the experiment station land, near the juncture of the Bliznec and Štefanovec brook, The researchers from the Department of Field Crops, Forage and Grassland, Center for Grasses use about 8 ha of land sown with grass and used by the department staff for hay storage and demonstration of the modern farming measures for storage of quality feed (for domestic animals).

### Equipment

The Department invested a lot of effort and money into procurement of modern equipment needed for field trials: modern tractors (John Deere 84 hp and Fendt 60 hp), attachable implements (plough, disk harrow, harrow, cultivator, land plane, etc.), sowing machine (four-row) for corn and soybean and combine for collecting of corn grains, while the sowing machine and combine for stubble cereals (for small plots) are shared with the Department of Plant Breeding, Genetics, Biometrics and Experimentation and the Department of Seed Science and Technology. The researchers also use numerous other pieces of machinery (cultivators, spraying machines, mowing machines, etc.).The laboratory premises accommodate equipment for drying and shredding of plant material, grain counter, scales, and other pieces of small laboratory equipment necessary for preparation of the material for further analyses.

## Teaching Activities

### Lectures

In the academic year 2007/2008, all teaching activities under the study program in modules primarily related to the field, industrial and fodder crop cultures were performed at the experiment station.

### Practical work

In the academic year 2007/2008, all practical work under the study program in modules primarily related to the field, industrial and fodder crop cultures and all practical work was performed at the experiment station.

### Scientific Research

The Ministry of Science, Education and Sports approved and funded 7 scientific projects carried out partly or in whole at the Maksimir Experiment Station.

### Graduation and Masters' Theses, Dissertations

During the reporting period, 10 graduation theses mentored by the researchers from the Department of Field Crops, Forage and Grassland were defended.

Darko Uher, MSc, junior researcher, finished his research and defended his dissertation.

■  
 Researchers: Professor Josip Borošić, PhD; Assistant Professor Bruno Novak, PhD; Assistant Professor Nina Toth, PhD; Ivanka Žutić, PhD; Božidar Benko, MSc; Sanja Fabek, BSc

Technical staff: Renata Baričević, ASS in Agriculture, Franka Cinfe, Damir Josip Petrinac, Robert Zadravec

**5.4.2**  
**Maksimir Experiment Station**  
**Vegetable Crops**  
**Department of Vegetable**  
**Crops**

**Manager - Assistant Professor**  
**Bruno Novak, PhD – Deputy**  
**Department Head**

## Resources

### Land

The experiment station surface area is 2.0 ha, and it consists of two areas. The smaller area (garden) accommodates plastic greenhouses, and a barrack for the experiment station technical staff and manager, with practical work classroom for students and a shed for gardening equipment and tools. Three hydrants supply the irrigation water from the public water supply system. The larger area (the so called field) has no hydrant in the vicinity, so irrigation is not possible, which limits carrying out of quality trials. This area (field) is mostly used by the Department of Field Crops, Forage and Grassland.

In addition to the two existing hot-air heated greenhouses (128 m<sup>2</sup>, 96 m<sup>2</sup>), there is the third greenhouse (130 m<sup>2</sup>) with floor heating at the smaller station area (garden) which is shared by the Department of Soil Amelioration and Department of Vegetable Crops. Other greenhouse facilities include unheated greenhouses of different surface areas (270 m<sup>2</sup>, 72 m<sup>2</sup>, 3 x 96 m<sup>2</sup>), high tunnels (54 m<sup>2</sup>, 3 x 42 m<sup>2</sup>) and a frame (15 m<sup>2</sup>).

### Equipment

The Department has IMT 533 tractor with rotavator and plastic mulch laying machine. The ploughing, disk-harrowing and harrowing services are received from the Department of Field Crops, Forage and Grassland. The small machinery available at the station includes: digging machine, sprinklers, rotavator, mowing machine, organic mulch cutter, manual sowing machine, and drip irrigation systems. The practical work classroom is fitted with laboratory equipment, including scales, hygrometer, etheric oil distillation equipment, tenderometer, mobile pH/ion-meter.

### Teaching Activities

In the academic year 2007/2008, the experiment station, its garden, greenhouses, and the practical work classroom were used for exercises in:

- Vegetable Crops, 9<sup>th</sup> semester (67 students) and 8<sup>th</sup> semester (49 students), study program: Plant Science, major: Gardening;
- Plant Production, 3<sup>rd</sup> semester (60 students), study program: Horticulture and 5<sup>th</sup> semester (18 students), study program: Plant Science;
- Plant Production, 4<sup>th</sup> semester (54 students), study program: Horticulture and 6<sup>th</sup> semester (16 students), study program: Plant Science;
- Vegetable Crops Basics, 2<sup>nd</sup> semester, study program: Plant Protection and 6<sup>th</sup> semester, study programs: Agricultural Economics, Agroecology and Organic Agriculture (together 79 students);
- Greenhouses, 9<sup>th</sup> semester, study program: Plant Science, major: Gardening (67 students) and 7<sup>th</sup> semester, majors: Agronomy and Pomology, Viticulture and Enology, and study program: Landscape Architecture (together 79 students);
- Greenhouses, 6<sup>th</sup> semester (19 students); study program: Horticulture;

- Aromatic and Medicinal Plants, 8<sup>th</sup> semester; study program: Plant Science, majors: Agricultural Economics and Land Management and Soil Protection, and study program: Landscape Architecture (together 34 students);
- Aromatic and Medicinal Plants Basics, 6<sup>th</sup> semester; study programs: Agricultural Economics, Plant Science and Horticulture (19 students).

The cultivars of vegetables, herbs, aromatic and medicinal plants, are grown for practical work performed in the outdoor garden area and the greenhouses, while vegetables are grown for demonstration and carrying out of practical work in cultivation methods.

### Scientific Research

#### Projects

The research activities are carried out within the following projects:

- Fruit Vegetable Cultivar Response to Nutrient Solution Composition, funded by the Ministry of Science, Education and Sports;  
A research on nutrient solution concentration on tomato yield and quality was finished in the heated greenhouse (2007). A research on nutrient solution concentration on pepper yield and quality was started in the unheated greenhouse (2007), and continued in the heated greenhouse (2008);
- Ogulin Cabbage cv. Selection, funded by the City of Ogulin;  
A research is partly conducted at the experiment station (selected plants seed production in the high tunnel and growing transplants for progeny testing);
- Evaluation of Sweet Potato and Yam Technologies, funded by the Ministry of Science, Education and Sports;  
Both heated and unheated greenhouses are used for production of planting material for all locations (Zagreb, Stubica, Punat) and sweet potato and yam production technologies tested in the open and in greenhouses;
- Broccoli as a Functional Food, funded by the Ministry of Science, Education and Sports;  
Transplants are grown at the experiment station;
- Leafy Vegetables Growing in Floating Containers (funded by the City of Zagreb Office for Agriculture and Forestry).  
The experiment station is used for perlite filling and seed sowing on polystyrene boards;
- Nutritional Value of Fructiferous and Subtropical Vegetables, funded by the Ministry of Science, Education and Sports;  
The experiment station is used for growing of tomato, pepper, sweet potato and yam for laboratory testing (Project Leader: Nadica Dobričević);
- Production of Aromatic and Medicinal Plants, funded by Jan-Sprider d.o.o., Pitomača.  
Testing production technology for mountain medicinal plants and seedlings of pelargonium (2007).

Research funded by the Department of Vegetable Crops:

- Testing Dwarf Bean Cultivar Lines Chosen for Selection;
- Vranski 34 and Cerski Cabbage cv. Selection; The experiment station is used for production of seed of selected plants by self-pollination in isolation and growing transplants for progeny testing;
- Soilless Cucumber Growing in Pots and Unheated Greenhouse;
- Arnica (*Arnica montana* L.) Yield Cultivation for Seed Production

### Graduation and Masters' Theses, Dissertations

During the reporting period, trials for research needed for preparation of 18 graduation theses and one dissertation were set up and finished.

■

Researchers: Professor Zlatko Čmelik, PhD; Professor Nikola Pavičić, PhD; Assistant Professor Tomislav Jemrić, PhD, Assistant Professor Boris Duralija, PhD, Zoran Šindrak, PhD; Jasmina Družić, MSc; Ana Kovač, BSc

**5.4.3**  
**Maksimir Experiment Station**  
**Pomology**  
**Department of Pomology**  
**Manager: Jelena Ugarković,**  
**BSc**

### Foundation

The experiment station has been founded for teaching and scientific research purposes.

### Resources

#### Land

0.3 ha of fenced area by the northern side of the 1<sup>st</sup> campus building, with collection of apples, pears, part of wild fruit collection, different plant cultivars, rootstocks and other needed for undergraduate and graduate teaching process.

#### Equipment

The Department owns different tools (shears, saws, spades, rakes, etc.), spraying and mowing machines, etc.

#### Teaching Activities

The experiment station is used for lectures and practical work in a number of modules, primarily those related to pomology.

#### Scientific Research

Scientific project funded by the Ministry of Science, Education and Sports: Biodiversity of Edible Wild Fruit Populations in Croatia, Project Leader: Boris Duralija

■

Researchers: Professor Vinko Kozumplik, PhD; Professor Marijana Barić, PhD; Professor Ivan Pejić, PhD; Professor Marija Pecina, PhD; Assistant Professor Jerko Gunjača, PhD; Assistant Professor Snježana Bolarić, PhD; Assistant Professor Snježana Kereša, PhD; Assistant Professor Hrvoje Šarčević, PhD; Aleš Vokurka, MSc; Toni Safner, MSc; Ivanka Habuš Jerčić, BSc; Miroslav Bukan, BSc; Anita Mihovilović, BSc

**5.4.4**  
**Maksimir Experiment Station**  
**Plant Breeding, Genetics and**  
**Research Methodology**  
**Department of Plant Breeding,**  
**Genetics, Biometrics and**  
**Experimentation**  
**Manager – Assistant**  
**Professor Hrvoje Šarčević,**  
**PhD**

### Resources

#### Land

4.95 hectares of land

#### Teaching Activities

#### Practical work

Practical work for undergraduate students in Genetics and Plant Breeding

### Students' practice

During summer 2007, seven students of Plant Science performed their practice at the experiment station.

### Scientific Research

#### Projects funded by the Ministry of Science, Education and Sports:

- Recurrent Selection of Maize Synthetic for N Use Efficiency and ASR Resistance; Project Leader: Professor Vinko Kozumplik, PhD
- Development of Wheat (*Triticum aestivum* L.) Germplasm Resistant to Drought Conditions, Project Leader: Professor Marijana Barić, PhD
- Nitrogen Use Efficiency and Bread Making Quality in Wheat; Project Leader: Assistant Professor Hrvoje Šarčević, PhD
- Genetic Variability of Red Clover and Tolerance to Abiotic Stress; Project Leader: Assistant Professor Snježana Bolarić, PhD
- Improving Research Efficiency by Using Advanced Biometrical Models; Project Leader: Assistant Professor Jerko Gunjača, PhD

#### Projects in cooperation with the business sector:

- Breeding Wheat; Project Leader: Professor Marijana Barić, PhD
- Breeding Soybean; Project Leader: Professor Ivan Pejić, PhD

### Graduation and Masters' Theses, Dissertations

During the reporting period, 2 graduation and one master's theses were defended.

5.4.5  
Maksimir Experiment Station  
Seed Production  
Department of Seed Science  
and Technology

Manager - Professor Ivan  
Kolak, PhD

■  
Researchers: Professor Zlatko Šatović PhD; Klaudija Carović-Stanko, BSc; Martina Grdiša, BSc; Boris Župan - technical assistant; Maja Župan Pour - technical assistant, and Dragica Matasić – skilled farm hand.

### Foundation

The experiment station is used for reproduction and economic evaluation of cultivars, and for production of cultivar seeds needed for teaching, scientific research and businesses, for reproduction of plant gene source accession collection and for accession description and evaluation needed for scientific research activities.

### Resources

#### Land

The experiment station consists of:

- 1.5 ha of fenced land divided into three-crop production (for cultivar accession, accession of seed from the Croatian Bank of Plant Genes, and breeding trials on cereals and grain legumes);
- 0.5 ha of land from the fence to the brook that needs to be fenced for practical work carried out in the teaching process;
- 0.5 ha of fenced land by a bee-garden for medicinal, aromatic and honey plants; the area is fitted with the drip irrigation system;
- 2.0 ha of unfenced land for sustainable selection and reproduction of different field crops for practical work with students.

## Equipment

The Department has laboratory equipment for cleaning, calibration, protection and packing of smaller or larger seed specimens, central storage facility and plant material curing shed.

## Scientific Research

### Projects

The scientific research is carried out within the following projects:

- Croatian Bank of Plant Genes (CBPG); Ministry of Science, Education and Sports,
- Genetic Variability of Medicinal and Aromatic Plants, Ministry of Science, Education and Sports,
- Program for Preservation and Use of Plant Genetic Resources, Working Group on Medicinal and Aromatic Plants, Ministry of Agriculture, Fisheries and Rural Development
- SEEDNet Project, Working Group on Medicinal and Aromatic Plants, International project
- Seed production for PP Orahovica d.d. Orahovica - contract with business sector
- Seed production for Meretina d.o.o. Županja - contract with business sector
- Seed production for Đakovština d.d. Đakovo – contract with business sector
- Seed production for Poljodar d.d. Daruvar – contract with business sector
- Seed production for Slavonska ravnica d.o.o. Slatina - contract with business sector
- Conceptual design for construction of the RIMC Malt Factory, Livno, Bosnia and Herzegovina - contract with business sector.

### Graduation and Masters' Theses, Dissertations

Research studies supporting preparation of two dissertations are currently under way.

■

Researchers: Professor Ines Vršek, PhD; Assistant Professor Vesna Židovec, PhD; Ksenija Karlović, PhD; Sanja Morić, MSc, and Miroslav Poje, BSc.

The Station has neither full-time technical staff nor gardeners; necessary hands are employed on part-time basis

## Resources

### Land

The experiment station comprises:

- 0.5 ha of fenced land (across the 4<sup>th</sup> campus building) used for trials for introduction of wild species into the horticulture and for student trials. The area accommodates two unheated plastic greenhouses, one with production bench. The plastic greenhouses are used to conduct trials with potted plants and other species that demand a greenhouse environment for production.
- 0.5 ha of fenced land (near the Department of Information Science and Mathematics) where trials are conducted with woody plants grown in the open.

## Equipment

The field trials are carried out with a motor cultivator and hand tools, and tractors and attachable implements are rented.

### 5.4.6

**Maksimir Experiment Station  
Ornamental Plants  
Department of Ornamental  
Plants, Landscape  
Architecture and Garden Art**

**Manager - Professor Ines  
Vršek, PhD**

## Scientific Research

### Projects

#### Project funded by the Ministry of Science, Education and Sports:

Micromorphological and chemotaxonomical research of some species from Lamiaceae family.

The project objectives are to research into micromorphological and chemotaxonomic characteristics of researched species of genus *Micromeria* Benth., *Satureja* L. and *Teucrium* L., as a contribution to defining of their taxonomic status and expansion in knowledge of their biologically active and medicinal chemical components.

#### Project funded by the Ministry of Agriculture, Fisheries and Rural Development:

Sweet violet (*Viola odorata* L.) Production Technology;

The Project purpose is evaluation of introduced sweet violet cultivars, analysis of morphological varieties of wild sweet violet population, cultivation of wild population and introduced cultivars in the open and in unheated greenhouses, monitoring development phenophases, determining technological procedures for early blooming.

### Graduation and Masters' Theses, Dissertations

During the reporting period, the experiment station was used to conduct trials for three graduation theses and for one professional paper.

#### 5.4.7

**Jazbina Experiment Station  
Viticulture and Enology  
Experiment Station  
Department of Viticulture and  
Enology**

**Manager: Aleksandar Brodski,  
BSc – technical assistant**

Researchers: Professor Bernard Kozina, PhD; Professor Jasminka Karoglan Kontić, PhD; Professor Edi Maletić, PhD; junior researchers Marko Karoglan, MSc; Darko Preiner, BSc and Zvezdana Marković, BSc, and technical assistant Luna Maslov, BSc in Chem.

Technical staff: The vineyards and facilities at the experiment station, and the activities of the vine cellar are carried out by technical staff including Josip Belačić, Ivo Barić and Andrea Rubčić, farm hands Nevenka Banek and Ivica Čegelj, and janitor Ankica Puntarić.

Because of its size and available equipment, this experiment station is open for various interdisciplinary research, so the staff from the Department of Viticulture and Enology is joined by the staff from other Departments (Department of Plant Breeding, Genetics, Biometrics and Experimentation, Department of Microbiology, Department of Agricultural Zoology, Department of Agricultural Botany), and occasionally by staff from other scientific research institutions (e.g. Faculty of Medicine, Split, Faculty of Science, University of Zagreb).

### Resources

#### Land

The Jazbina Experiment Station occupies about 25 ha of fenced land, of which:

- 8.0 ha of wine grape production vineyards,
- 0.1 ha of table grape cultivars,
- 0.2 ha of interspecies grapevine hybrids,
- 0.3 ha of grapevine cultivar collection,
- 0.4 ha of rootstock mother vine collection.

The Department of Pomology uses about 2.5 ha of the experiment station area, and the rest is the yard with appurtenant structure and forest .

### Cultivars

The production vineyard is dominated by white grape cultivars of Chardonnay (30% of area), Traminac (25%) and Graševina (5%). Red grape cultivars are planted on 20% of the production vineyard, and dominant cultivars are Merlot, Cabernet Sauvignon and Pinot Noir. The remaining surface area is under collection of cultivars typical for inland Croatia (about 50 white and red cultivars), intended primarily for education of students.

From these cultivars, the experiment station is producing quality and top-quality wines Chardonnay, Zlatarovo Zlato, Dora Krupičeva, quality white wines Jazbina and Stella Alba, and Kontesa Nera and Crni Vitez which are coupages (blends) of red cultivars. In addition to wines from regular harvests, the experiment station produces sprinkling wines using classical method of fermentation and, when the winegrowing years are favourable, special harvest wines.

The experiment station accommodates the National Grapevine Cultivars Collection, which currently has 120 genotypes. The Collection has been established in order to preserve the remaining grapevine cultivars from the Croatian territory, particularly the most endangered cultivars which have thus been saved from extinction.

A rootstock mother vine collection has been grown for educational purposes for the students to learn about a number of economically important grapevine rootstocks. Some table grape cultivars have been planted for the same reason.

The experiment station also accommodates a small trial plantation of interspecies grapevine hybrids with about ten cultivars with economically favourable properties, resistant to fungal diseases, which are intended for evaluation and subsequent recommendation for planting in the production vineyards.

### Resources

#### Structures and equipment

The experiment station encompasses the farm buildings and wine cellar with rooms and equipment for vinification, wine maturation, stabilisation and bottling. The cellar had stainless steel tanks, volume 100 to 5000 liters, a cooling system with total capacity of 30,000 liters, and barrique barrels for wine maturation. The wine production phase is equipped with destemmer-crusher, pump and pneumatic wine-press (capacity of about 2 ton/cycle of grapes), while the stabilization and bottling phases are fitted with different filters, stainless-steel tanks for wine cold stabilization, and semi-automatic bottling machine (throughput about 1000 liters/day of wine). Bottled wine is stored in a storage fitted with an adequate cooling system.

Shed/garage with makeshift workshop is used to store agricultural machinery (tractor, mulching machine, etc.). A building with office and laboratory premises of the Department of Viticulture and Enology, library and experimental cellar are also located at the experiment station.

A laboratory for grapes, must and wine is fitted with liquid chromatograph, gas chromatograph with mass detector, spectrophotometer, and photochem, which enable, in addition to standard chemical analyses, carrying out of analyses of different groups of chemical compounds in must and wine. An ampelometric laboratory is equipped for ampelographic description and determination of cultivars, and ampelometric research.

The experimental cellar is fitted with the state-of-the-art system for micro and mini vinification, with automatic temperature control and inert gas that enables controlled and uniform sampling conditions, thus it is suitable for enological evaluation of cultivars and clones, and for conducting of various technological trials.

Two traditional wooden cottages, with exhibited old Croatian winepress, are used by the Department and the Faculty in special occasions.

### Teaching Activities

The experiment station is used for practical work in Viticulture and Enology group of courses for the students of Plant Science (in Pomology, Viticulture and Enology and other majors), new undergraduate program in Horticulture, and some of the students that carry out their mandatory practice at the station.

### Scientific Research

The vineyard and the experimental cellar are used for research activities within the following projects:

- Potential of polyphenols in grape varieties Ministry of Science, Education and Sports,
- Untypical Aging Off-flavour in Wine, Ministry of Science, Education and Sports,
- Intravarietal Heterogeneity of Vine Germplasm and Improvement of Clonal Selection, Ministry of Science, Education and Sports,
- GrapeGen06 – Management & Conservation of Grapevine Genetic Resources, international project,
- Ruža Porečka Muscat – Desert Wine, Ministry of Agriculture, Fisheries and Rural Development,
- Prosecco Quality Improvement by Variety Selection and Implementation of Modern Technological Procedures; Ministry of Agriculture, Fisheries and Rural Development,
- Preservation and Revitalisation of the Native Grapevine Cultivar Malvasia Dubrovačka Bijela (*Vitis vinifera* L.), Dubrovačko-Neretvanska County
- Clonal Selection of Grapevine cv. Škrlet Bijeli, Sisačko-Moslavačka County
- Ampelographic and Genetic Evaluation of Primorsko-Goranska County Native Grape Varieties, Primorsko-Goranska County
- Clonal Selection of Grapevine cv. Kraljevina, Zagrebačka County and City of Sv. Ivan Zelina

### Graduation and Masters' Theses, Dissertations

Experimental research is conducted at the experiment station for a number of graduation theses and dissertations prepared by the Department junior researchers. During the reporting period, six graduation theses based on the research carried out at the experiment station.

### Other Activities

During the reporting period, several educational cycles were organized on sensory wine testing, and presentations of scientific research and projects.



Researchers and technical staff: Professor Nikola Pavičić, PhD; Assistant Professor Tomislav Jemrić, PhD; Assistant Professor Boris Duralija, PhD; Zoran Šindrak PhD; Jasmina Družić, MSc, Ana Kovač, BSc, Jelena Ugarković, BSc, Ivan Kolić (farm hand)

**5.4.8**  
**Jazbina Experiment Station**  
**Fruit Production Experiment**  
**Station**  
**Department of Pomology**  
**Manager: Professor Zlatko**  
**Čmelik, PhD**

#### **Foundation**

The experiment station has been founded for teaching and scientific research purposes.

#### **Resources**

##### **Land**

About 2.5 ha of fenced area to the right from the main road, including:

- 1.7 ha under apple and pear plantation,
- 0.2 ha under collection of about 100 apple cultivars and clones,
- 0.3 ha under trial with plum rootstocks and cultivars and a collection of plum cultivars,
- 0.2 ha under trial with different cherry rootstocks and collection of cherry cultivars,
- 0.1 ha under plums,
- 0.1 ha under sweet chestnut,
- 0.1 ha under elder, dog-rose and cornel-berry.

##### **Equipment**

Department of Pomology owns different tools (shears, saws, spades, etc.), and small machinery (motor cultivator, back-pack sprayer, mowing machine), so it must rely for major equipment on support from other departments.

##### **Teaching Activities**

The experiment station is used to render some lectures and perform some practical work for a number of modules that are primarily related to pomology.

##### **Scientific Research**

Revitalisation of Plum Production - ARC Project conducted at the experiment station and funded by the Ministry of Agriculture, Fisheries and Rural Development, Project Leader: Professor Zlatko Čmelik, PhD.

##### **Graduation and Masters' Theses, Dissertations**

Research studies supporting preparation of graduation theses are performed at the experiment station.

## 5.4.9

**Center for Grasses, Sljeme 1,  
Mt. Medvednica  
Department of Field Crops,  
Forage and Grassland**

**Manager - Assistant Professor  
Josip Leto, PhD;**

■ Researchers: Professor Mladen Knežević, PhD; Assistant Professor Marina Vranić, PhD; Krešimir Bošnjak, MSc; Goran Perčulija, MSc; Hrvoje Kutnjak, BA Biol.

#### **Foundation**

The Department of Field Crops, Forage and Grassland staff initiated intensive research into the mountain grassland management issues and revival of a facility at the Mt. Medvednica in 1970. In 1982, this facility was turned into the Mountain Region Management Station from which, in 2002, a modern and well equipped Faculty of Agriculture Center for Grasses was born. In addition to scientific research, the Center is used for teaching and educational activities for the Faculty of Agriculture and Faculty of Veterinary Medicine students, as well as for primary and secondary school students, Extension Service, and agricultural producers. For the research purposes, the Charolais breeding cattle and sheep have been brought to the meadows of the Center for Grasses to set up a parent herd of quality breeding animals for development of halves fattening production system in Croatia.

#### **Resources**

##### **Land**

55 hectares of land

##### **Equipment**

The Center laboratory equipment includes: NIRS roughage analyser with software, protein analyser, fat analyser, fodder degradability analyser (gas production system by Cone), an experimental sheep and cattle stable, and machinery for forage harvesting and conservation.

##### **Livestock**

Thirty cows, 5 heifers 2 bulls, 25 halves, 23 sheep.

#### **Teaching Activities**

##### **Lectures and practical work**

Zagreb Faculty of Agriculture, undergraduate study program:

- Plant Science: Organic Agriculture, Grassland Management;
- Animal Science: Grassland Management Systems

Marko Marulić Polytechnic, Knin

- Grassland Management and Forage Conservation
- Agricultural Phytocenology

Zagreb Faculty of Agriculture, postgraduate (doctoral) study program:

- Grassland Ecology and Grassland Management Scientific Research Methods

##### **Students' practice**

Animal Science, Plant Science and Organic Agriculture students regularly perform their annual practice at the Center for Grasses.

### Scientific Research

#### Projects

- Environmentally Sound Management of Organic Fertilisers in Feed Production, Project Leader: Professor Mladen Knežević, PhD;
- Evaluation of Sustainable Feed Production Systems for Mountain Regions, Project Leader: Assistant Professor Josip Leto, PhD.

### Scientific Papers

During the reporting period, members of the Sljeme Center staff published eight papers in scientific journals and presented three papers at congresses and conferences. They also rendered two professional lectures on grass management and animal breeding.

### Graduation and Masters' Theses, Dissertations

Two graduation theses were defended.

### Other Activities

Josip Leto (2008). Technical and Technology Study of Roughage Feedstuff for Lička Dika Milk Goats Farm.



### Scientific Research and Other Activities

#### Projects

The long-term research project Historical Garden and Landscape Heritage of Dubrovnik (Primary researcher: Bruno Šišić, PhD) continued according to the time schedule for 2007/2008 and the Co-funding Agreement the Center signed with the City of Dubrovnik.

#### Public appearances

Numerous public lectures were organized on protection of historical characteristics of Brsalje, Pile, as an initial segment of the historical town garden planning at the northern city side, as well as the boulevard on the southern side. These genuinely valuable spaces are endangered by an approved "development" project (Architect I. Franić). A special contribution was that of a lecture rendered by Dr. B. Šišić, as one of three invited lectures for a public forum titled Planned Devastation of Dubrovnik held on 12 December 2007, and organized by DUB Society. An outcome was a mass protest held on 20 December 2007.

Arguments were presented against excessive and unplanned residential and commercial development and devastation of green hills and belts in the urban landscape, an issue of the Gruž Bay and marina construction was highlighted, and a problem underscored of devastation of unique historical urban gardens at Pile and Konavle which results in devaluation of Brsalje plateau located near the western City gate.

In September 2007, Dr. B. Šišić responded to an invitation to reconsider the preventive measures for the Dubrovnik landscape fire protection. The Historical Gardens and Landscape Development Center presented the City of Dubrovnik with three original papers on the topic from the personal archives of Dr. Šišić

- Vegetation Cover Nursing - Essential Problem of its Protection and Improvement as Responsibility of the Dubrovnik Municipality, Dubrovnik, 1984, pp. 1-12

#### 5.4.10

**Historical Gardens and Landscape Development Center Experiment Station, Dubrovnik  
Department of Ornamental Plants, Landscape Architecture and Garden Art**

**Manager: Professor Branka Aničić, PhD;  
Outside collaborator: Bruno Šišić, PhD (landscape architecture)**

- Vegetation Cover Nursing - A Relevant Factor in Protection and Improvement of Landscape at the Dubrovnik Territory, Conference on the Adriatic Sea Preservation; Budva, 1984, pp 1-7
- Landscape Valuation of the Vegetation Cover in the Dubrovnik Region with Assessment Criteria for Landscape Damages Caused by Fires of Summer 1983, Dubrovnik, 1984, pp 1-9.

Permanent care about the valuable oriental plane-tree planted in a historical garden at Pile-Brsalje, which was temporarily protected by the Ministry of Culture on the basis of a study prepared by the Center in 2007.

The Center mailed a number of letters to the Ministry of Culture Nature Conservation Directorate demanding that detrimental activities (such as earth excavations) be stopped.

Upon request of the Environmental Protection and Physical Planning Administration of the City of Dubrovnik, a review was done of a study Evaluation of the Current State of the Gradec Public Gardens in Dubrovnik (Vrtlar-Dubrovnik Municipal Utility), prepared on the basis of updated Conceptual Design from 1997.

The Center submitted to the City of Dubrovnik its detailed program, work plan and cost estimate for 2008 activities on a long-term research project. The amount of HRK 140,000.00 was approved.

Participation in review and editing of the Rules on Internal Order in Park Architecture Monuments Platana No 17 and Platana No 18 in Trsteno, prepared by the Public Institution for Protected Buildings and Structures in the Dubrovačko-Neretvanska County.

#### Published papers

Šišić Bruno (2007). Trees in Landscape of Coastal Towns and an Issue of Identity, paper presented at the International Conference of the Croatian Agricultural Society, Šibenik, 21-24 October.

Šišić Bruno, Koščak Miočić-Stošić Vesna (2008). Role of Native Vegetation in Protection of Identity of Dalmatian Cities, paper at the 3<sup>rd</sup> International Symposium on Agriculture, Opatija, 18-21 February.

Šišić Bruno: encyclopaedic articles for the Miroslav Krleža Lexicographic Institute and for Marin Držić Lexicon published in autumn 2008: items on Summer Residences and The Dubrovnik Gardens.

#### Other activities

As member of the Board for Revitalization and Development of Trsteno Arboretum of the Croatian Academy of Science and Arts, Dr. B. Šišić prepared a detailed analysis of the Study of the Current State of the Croatian Academy of Science and Arts Trsteno Arboretum (2005-2007) and submitted his conclusions to the Academy.

Upon invitation of the Investor, Dr. B. Šišić conducted a field survey for landscape evaluation of Mikulići area in Konavle. During the meeting at the Center held in summer 2007 (Mrs P. Župan, Mr. A. Komaić, Prof. B. Aničić and Dr. B. Šišić), the Faculty of Agriculture Department of Landscape Architecture got directly engaged in development of study titled Landscape Evaluation of Mikulići Area with Guidelines for Landscaping and Planning of Canavia Village Tourist Resort, which was reviewed by the Center.

Permanent collaboration with DUB Society from Dubrovnik and The Dubrovnik Curators Society on protection of valuable landscape in the Dubrovnik urban and suburban areas.

Collaboration with the Croatian Art Historians Society (Dr. Snješka Knežević) on harmonization of activities related to protection of Pile and Brsalje areas in Dubrovnik.

#### Appearance in public media

Dubrovački Vjesnik weekly, Issue 2987 of 26 April 2008 published an article Eternal Love and Enthusiasm for Profession – 55 Years Dedicated to Profession, on B. Šišić Jubilee, S. Seferović, pp. 54-55.

Dubrovački Vjesnik weekly, Issue 2954 of 8 September 2007 published an interview with Dr. Šišić titled No Relativisation of Tree Value (on plane-trees at Brsalje), p 47, S. Seferović.

Semi-annual magazine issued by the Dubrovnik Tourist Board, issue 14 (winter 2007/spring 2008) published an article by Marina Miović-Zec titled Dr. Bruno Šišić – A Top Expert in Dubrovnik Renaissance Gardens (in Croatian and English) in column Famous Citizens of Dubrovnik, pp 42-44.

Garden of the Crijević-Pucić Villa (designer Center for Historical Gardens – design engineer and author of revitalization Dr. B. Šišić) received the Blue Flower Award of the Croatian Tourist Board as the most beautiful garden at the Croatian coast in 2007.

“Who’s Who - Art club international” from Switzerland published “La carte d’art” (Art Postcard) with a motif of the revived Crijević Villa garden in Dubrovnik (author and design engineer B. Šišić) on the occasion of his 55<sup>th</sup> jubilee.



## 6. Publishing, Libraries and IT Activities

### 6.1 Publishing

ISSN 1331-7776 (online)

ISSN 1331-7768 (printed)

www.agr.hr/smotra

Editor-in-Chief: Zlatko Šatović

Scientific Editors: Ino Čurik (Animal Science), Zlatko Šatović (Plant Science)

Junior Editor: Martina Grdiša

Editorial Board: Zdeněk Adámek, Czech Republic; Josip Borošić, Croatia; Alen Džidić, Croatia; Stefanka Hadžipećova, Macedonia; Rainer Haas, Austria; Jasminka Igrc Barčić, Croatia; Branka Javornik, Slovenia; Ivan Jurić, Croatia; Jasminka Karoglan Kontić, Croatia; Ivica Kisić, Croatia; Damir Kovačić, Croatia; József Kiss, Hungary; Josef Kozák, Czech Republic; Ivan Pejić, Croatia; Enrico Peterlunger, Italy; Carl A. Pinkert, USA; Zed Rengel, Australia; Johann Sölkner, Austria; Zlatko Svečnjak, Croatia; Tomislav Treer, Croatia

Copy Editor: Dragan Tupajić

English Language Editor: Marija Jug-Dujaković

#### 6.1.1 Agriculturae Conspectus Scientificus (ACS)

#### ACS Publishing

In 2007, Vol. 72 was published, including 4 issues (No. 1-4). Sixty-three scientific papers were published in total, of which 38 by Croatian and 25 by international authors. The number of pages published was 388. Compared to the previous years, a considerably larger number of papers was published in this reporting period.

Issue 1 (Vol. 72, No. 1) was a topical issue which focused on papers from the X. Congress of Croatian Society of Soil Science: Soil Functions in the Environment, held in Šibenik on 14-17 June 2006. Guest Editor was Professor Ivica Kisić, PhD.

Issues 3 and 4 (Vol. 72, Nos. 3-4) was a topical issue which focused on papers from the 2<sup>nd</sup> International and 19<sup>th</sup> Croatian Congress of Technologists for Post-harvest Technology: Zrnko 2006, held in Tuheljske Toplice on 22-23 November 2006. Guest Editor was Assistant Professor Neven Voća, PhD.

#### Indexing, Exchange and Other Activities

Secondary international sources in which the papers from the ACS journal are indexed include: (1) ASFA: Aquatic Science and Fisheries Abstracts, CSA, Bethesda, USA, (2) Biological Abstracts, Thomson Scientific, Alexandria, USA, (3) BIOSIS Previews, Thomson Scientific, Alexandria, USA, (4) CAB Abstracts, CAB

International, Oxon, Great Britain, (5) EMBiology, EMBASE, ELSEVIER, Norwich, Great Britain, (6) GEOBASE Earth Science Database, ELSEVIER, Norwich, Great Britain, (7) SCOPUS, ELSEVIER, Norwich, Great Britain.

The Faculty of Agriculture distributes ACS to 170 institutions from which it receives, in exchange, 96 journals and other publications (including monographs, annual reports, brochures, etc.). All publications received through the exchange are kept at the Central Agricultural Library of the Faculty of Agriculture, Zagreb.

The ACS web site is updated on regular basis so the journal is freely accessible at [www.agr.hr/smotra](http://www.agr.hr/smotra). The papers are accessible from the web site even before a particular issue is finished (Online First) in order for the authors to get a copy of their paper in .pdf format as early as possible. The papers published Online First can be cited.

All papers are also regularly posted and freely accessible at the Portal of Scientific Journals of Croatia - Hrčak ([hrcak.srce.hr](http://hrcak.srce.hr)), and at the Directory of Open Access Journals; DOAJ; [www.doaj.org](http://www.doaj.org).

### 6.1.2 ■ Journal of Central European Agriculture (JCEA)

ISSN 1332-9049 (online)

[www.agr.hr/jcea](http://www.agr.hr/jcea)

Editor-in-Chief: Professor Nikola Kezić, PhD

Between June 2007 and May 2008, four issues of JCEA were published. During this period, 194 manuscripts were submitted, 70 with two positive peer reviews published, and 38 rejected (19.5%). The remaining 85 papers are under review. The peer review process involved 64 reviewers (15 Croatian and 49 international reviewers). So far, the journal recorded 53,986 hits on the web site.

Papers published between June  
2007 and May 2008

Year and volume	Issues	Pages	Papers published
Vol 8 (2007)	No2, No3, No4	341	41
Vol 9 (2008)	No1	228	29
Total	4	569	70

The JCEA Editorial Board for 2007 was the Slovakian Editorial Board. Therefore, the Editorial Board Annual Meeting was held in Nitra (Slovakia) on 30 November 2007, during the 2<sup>nd</sup> International Conference on Agricultural and Rural Development. The Meeting unanimously decided that the Editorial Board for 2008 will be from Poland. In May 2008, Editor-in-Chief received a Letter of Intent of the Čačak Faculty of Agriculture expressing an interest of Serbia to join the journal as its ninth member. The submittal will be presented and discussed at the Editorial Board Annual Meeting in Bydgoszcz (Poland) on 18 September 2008.

The Croatian Copy Editing Board members (Lidija Svečnjak, Martin Turšić and Martina Ivanković) were permanently engaged on their editorial tasks:

- Keeping records on: Accepting manuscripts, Distributing manuscripts to reviewers, Accepting reviewed manuscripts, Accepting or rejecting manuscripts.
- Communication with authors,
- Review analyses,
- Checking whether articles are harmonized with reviews,
- Keeping minutes of the Board meetings,
- Copy editing of the journal: Article layouts, Issue layouts, Web site editing.
- Coordination of international JCEA Editing Boards.

## 6.2 Library Activities

Activities on Tempus Project: Model of the University of Zagreb Library System finished. The CAL participated in the Project along with a number of faculty libraries from the University of Zagreb. Project Leader and Coordinator was Marina Mihalić, MSc from the National and University Library, Zagreb.

In June 2006, the National and University Library, Zagreb hosted an exhibition Selection from Old and Rare Books from the Central Agricultural Library, organized to mark the 60th anniversary of the CAL, and an exhibition of Bogdan Jurčić oils on canvas titled Horizons and Longings. The exhibition was accompanied by a catalogue and a cultural program.

The Ministry of Science, Education and Sports/CARNet enabled access to international on-line journals and some 70 most recognized databases accessible through the Center for Online Bases.

The funds received from the Ministry of Science, Education and Sports enabled the FAZ to subscribe to 75 printed international journals. The CAL has been permanently subscribed to 44 Croatian professional journals and magazines, and another 100 publications are received through exchange for the Faculty publications. The Library is regularly receiving 80 FAO publications. In 2007, the CAL received 955 copies of new publications. The library had 1,730 regular members during the reporting period.

The book stocks from some Faculty departments were received and sorted out, processed and put into use.

### 6.2.1 Central Agricultural Library (CAL)

**Head Librarian: Vjekoslava Bešlaj, B.A.**

## 6.3 IT Activities

The FAZ Web Site Editorial Board was set up in 2003. Since 2007-2008, the Editorial Board members are: (1) Assistant Professor Alen Džidić, PhD, Editor-in-Chief; (2) Professor Davor Romić, PhD, Dean; (3) Assistant Professor Mihaela Britvec, PhD, Dean for Academic Affairs; (4) Professor Edi Maletić, PhD, Dean for Scientific Affairs; (5) Professor Milan Mesić, PhD, Dean for International Relations; (6) Professor Marija Pecina, PhD, member; (7) Professor Zlatko Šatović, PhD, member; (8) Assistant Professor Marija Bujan, PhD, member; (9) Davor Bevanda, web-master; (10) Usama Kalit, member.

The FAZ web-site is regularly updated and the FAZ news posted. Any comments and remarks on user interface and the web site contents are considered thoroughly. The <http://www.agr.hr> domain has 5664 web sites. Special attention has been paid to reporting on the Bologna process and related educational reforms. Information is given on reform of the study programs and the FAZ admission policy. New undergraduate programs, admission information and teaching material, as well as postgraduate doctoral study programs of Agricultural Sciences and Agricultural Economics, which started during the last academic year, and specialised study in Fisheries are presented in detail on the web site. The Research page of the web site enlists all the projects funded by the Ministry of Science, Education and Sports in which the staff from the Faculty are leaders. The Faculty of Agriculture web site has been analyzed using the Google Analytics since 25 March 2008. Until 19 June 2008, the web site recorded 17,471 hits, between 121 and 839 hits/day. Most hits were from Croatia, than Bosnia and Herzegovina, Germany, Slovenia, Spain, USA, etc. Engagement of the Computer System Committee resulted in opening of the

### 6.3.1 The FAZ Web Site Editorial Board

**Editor-in-Chief – Assistant Professor Alen Džidić, PhD**

following subdomains: <http://sa.agr.hr>; <http://hcpm.agr.hr>; <http://cpgrd.agr.hr>; <http://zrnko.agr.hr>; <http://studa.agr.hr> within the <http://www.agr.hr> domain. Through cooperation with CARNet, a system for mobile videoconference, Polycom, was purchased.

**6.3.2**  
**Higher Education**  
**Management Information**  
**System (HEMIS) at the FAZ**

■ The Higher Education Management Information System (HEMIS) was set up at the Faculty of Agriculture in 2004 for advancement and improvement of the FAZ organization and activities. The HEMIS integrates a set of separate modules intended for different groups of users (lecturers, students, student's service, etc.).

The following modules are functional: Studies and Students, Exams, and Human Resources. The previous period has seen intensification of activities related to undergraduate studies and preparations for implementation of Studomat module.

The HEMIS coordinators are: Assistant Professor Mihaela Britvec, PhD, Dean for Academic Affairs and Professor Vjekoslav Par, PhD.

## 7. Students' Organisation and Activities

### 7.1 The FAZ Students Assembly Chapter

The Students Assembly Chapter of the University of Zagreb Faculty of Agriculture was convened at the elections held on 26-27 March 2008.

The FAZ Students Assembly Chapter has 15 members, five of which are postgraduate students' representatives:

Ivan Matić - President	Antonio Mravak
Ivan Vnučec - Deputy	Igor Palčić
Natalija Galzina	Rajan Pranjić
Nikola Kolačević	Zoran Salopek
Tomislav Kos	Mario Skelin
Anđa Matić	Maja Ščepanović
Franka Milardović	Petar Živković
	Maja Žulj

Until the 2008 elections, the FAZ Students Assembly Chapter President was Mislav Banek.

The FAZ Student Assembly Chapter participated in organization of the following events:

- Organisation of Freshmen Night together with the Faculty of Graphic Arts, Faculty of Forestry, Faculty of Teacher Education and Faculty of Textile Technology at a disco club The Best in Zagreb. The event was attended by about two thousand students.
- Organisation of the 4th Students' Futsal Cup The futsal (indoor football) cup was held on artificial grass at the Zagreb Fair and Šalata Sport and Recreation Center; 64 students' teams participated.
- Organisation of the 7th Students' Harmony Singing Groups Festival Organised in cooperation with the University of Zagreb Student Assembly. The festival venue was the Croatian Music Institute in Zagreb, and eight groups took part.
- Organisation of students' harmony singing groups Christmas concert at the Marija Pomoćnica church at Knežija.
- Co-organisation of student's exchange in collaboration with the IRO.
- Organization of blood donation drives

The Chapter members participated in blood donation drives in support of the Ana Rukavina foundation.

## 7.2 IAAS Hrvatske /the FAZ/

The IAAS Croatia is a national organisation of students of agriculture and related sciences which has an international character (it is a member of the International Association of Students in Agricultural and Related Sciences from Belgium, within the Katholieke Universiteit Leuven).

The IAAS Croatia /FAZ/ is a non-profit, non-governmental, independent organisation. All the IAAS Croatia members are volunteers.

Academic year 2007/2008 Presidency of the IAAS Croatia

President*	Petra Radetić
Vice-President for Finances and Marketing	Domagoj Kekez
Vice-President for Projects	Nina Fočić
Vice-President for ExPo (students' practice exchange program)	Mario Skelin
Vice-President for Membership	Maja Žulj

\* Maja Nikolić until 13 March 2008

The IAAS Croatia aim is to encourage scientific and international interest of the agricultural students, and to improve mutual understanding among the students from all over the world. The basic task is the international exchange of students' practices, organisation of projects, seminars and international gatherings. Since its establishment in 1993, the IAAS Croatia organised more than 15 international and 20 national seminars and meetings and helped, through the Exchange Program, in organisation of students' practice for several dozen students of the Faculty of Agriculture.

During the academic year 2007/2008, the IAAS Croatia members were active in attracting members (a picnic at Mt. Medvednica on 13 October 2007), international cooperation, and organization of Vine Production and Aromatic Plants Seminar.

The IAAS Croatia activities during the academic year 2007/2008:

### 1. World Congress 2008

The 50<sup>th</sup> World Congress of IAAS was held from 20 July to 8 August 2007 in Germany and Switzerland. The Congress topic was Food Quality and Food Security. The Challenge is Ours!. The Congress was attended by over hundred students from 27 countries, including four IAAS Croatia members.

### 2. IAAS EDM 2007/2008

The Annual European District Meeting of the European IAAS member states held in Greece (27 December 2007–3 January 2008) was attended by over a hundred students from Europe. Lectures and technical excursions were organized, projects presented, and future plans explained. During the EDM, the IAAS Croatia representatives presented the Vine Production and Aromatic Plants – Taste of Harmony in Croatia Seminar.

### 3. Exchange Week

The Exchange Week is a project within which the students from two or more countries visit each others. Such visits enable them to learn about the agricultural and economic potential, and cultural and natural assets of a country they are visiting. The most valuable aspect of the exchange is, naturally, establishing relations with colleagues from other countries.

The IAAS Belgium organized a meeting of IAAS Belgium, Croatia and Slovenia between 31 October and 7 November 2007. The meeting topic was Belgium – A Small Country in a Big Market. The IAAS Croatia representatives had a chance to learn about the Belgian beer producing culture during a visit to the Stella Artois brewery and some small family breweries. Visits were also organized to some family farms in Ardene.

Between 29 February and 7 March 2008, a meeting was organized of IAAS Belgium, Croatia and Slovenia in Slovenia. The IAAS Croatia representatives attended workshops at the Biotechnical Faculty, University of Ljubljana and visited a dairy in Maribor, a tractor winch producer Tajfun in Planina na Sevnici, and family farms involved in bee-keeping, marrow oil production, management of nurseries, etc.

Within the Exchange Week, 20–27 April 2008, the IAAS Croatia organized a Vine Production and Aromatic Plants – Taste of Harmony in Croatia Seminar. The seminar attracted 50 students from Belgium, Croatia, Czech Republic, Finland, France, Germany, Hungary, Serbia, Slovenia, Switzerland, and USA. Some informative lectures were held at the Faculty, and the participants were organized a visit to the Krapinsko-Zagorska County to learn about the economic and natural assets of the region. They also visited the Grešna Gorica agribusiness. The trips were also organized to the Žumberak Eco Village and its Trade Fair, and to the Plitvice Lakes National Park. The participants spent a part of this Exchange Week in Dalmatia visiting the cities of Split, Primošten, Hvar, Ston and Dubrovnik. The lectures on and visits to Primošten Vineyards, Kezele Agritourism, Ston Salt Plants, Zlatan-Otok Wine Cellar, etc were organized.

#### 4. The Second IAAS Art Festival and Zifft University Theaters Meeting

The Second IAAS Art Festival was organized at the Iowa State University, Illinois, USA on 9–19 May 2007. The IAAS Croatia sent two representatives, two painters, Mladenka Mikulec and Maja Penić.

#### 5. EXPRO Exchange Program

Within the Exchange Program, a practice was organised for Lara Porić, a IAAS member which applied for her student's practice in Finland. Two Belgian student were organized their practice at the Prud family farm (nursery) near Metković in August 2008.

### 7.3 STUDA Association of Students of Agriculture

President: Marija Tomić

During the reporting period, the Association continued with its activities. The Annual Assembly resulted in changes in Association work, and these were entered into the Statutes. The Association was actively involved in improvement of students' status. It took part in organization of the Second Career Day organized in Croatia, and of the International Meeting of the Agricultural students – 2008 Agronomiade. The Association members also took part in the 12<sup>th</sup> University of Zagreb Convention at which the future students were presented studying and study programs of the Faculty of Agriculture.

Some Association members attended lectures and workshops on team work, communications, project drafting, negotiations, and the like. Large membership and active participation of the members in the Association and Faculty activities raises again

an issue of the facilities, since the Studa and Mandarina Students' Club still share small and inadequate premises in the basement of the 4<sup>th</sup> campus building.

#### AS Agroecological Group ■

Group Leader: Ana Hrs - Šorman

STUDA consists of a several clubs and groups which have their individual projects, and AS Agroecological Group plays an important role in awareness rising about the need to respect the environmental principles in carrying out of their activities. Thus, during the entire reporting period the AS focuses on the environmental monitoring and education of all the Association members.

The AS marked the International Waters Day and the Earth Day (with Zelena Akcija Group), and played an active role in the STUDA Association activities. The Group members took part in landscaping of the Faculty grounds by planting ornamental plants around the new 6<sup>th</sup> campus building.

#### Photography Club ■

Club leader: Maja Ščavničar

The Photography Club was established to document the events at the STUDA Association and the Faculty by photography. The Club members thus photographed events such as 2008 Agronomiade, 12<sup>th</sup> Convention of the University of Zagreb, Career Day, etc. They set up a number of exhibitions in Mandarina Students' Club, and created seasons' greetings cards.

#### Mandarina Students' Club ■

This Club attracts the largest number of the STUDA members, and its premises host both the Faculty of Agriculture and the Faculty of Forestry students who occupy them during the working days to mingle and to exchange useful information regarding exams and their academic experience. The regular Club meeting made a decision that all the members will participate in the Club management, and will thus assume the responsibility for all the Club activities.

The Club participated in all projects initiated by the STUDA, and took active part in numerous cultural and sports events organised at the Faculty of Agriculture. The Club is particularly valuable for its social function, since it sometimes gives financial support to the students.

#### Sila Hunting Group ■

Group Leader: Marko Musulin

The Sila Hunting Group had a very successful year. Several trips were organised to the Faculty Prolom Hunting Grounds, where the Faculty of Agriculture students participated in erecting the hunting grounds facilities (high stands, feeding places). On several occasions the Group hosted hunters, as well as teaching and other Faculty staff. The group members collaborated with the Hunting Ground staff in different activities. A tour of the Hunting Museum was organised. During the past year, the group attracted some 50 new members.

#### Remi Chess Club ■

Club leader: Đuro Vilar

The Remi Chess Club reached an agreement with the staff teaching in physical and health culture to participate in organisation of all chess practices and the Faculty of Agriculture chess championship and tournaments.

#### Enology Club ■

Club Leader: Marijana Čolić

The Enology Club is the youngest Association club founded in 2008. It mainly brings together the students of enology-viticulture-pomology programs, as well as other students who want to learn about the grapevine growing and wine production.

#### 7.4 USKA Landscape Architecture Students' Group

President: Davor Oblijan

The USKA Landscape Architecture Students' Group was established on 27 March 2003, and the whole idea was launched by a group of Landscape Architecture students. The USKA is a member of the ELASA (European Landscape Architecture Student Association). The group is a non-profit, non-governmental and independent organisation, and all its members are volunteers.

The USKA Group purpose is:

- Organisation of different projects, seminars, forums, exhibitions, workshops on landscape architecture, nature conservation and the environmental protection
- Promotion and awareness arising of landscape architecture
- Support to students

During the reporting period, the Group members were involved in the Group web site creation and ArcGIS course.

#### 7.5 Agronomiade

The meeting of the students of agriculture, 2008 Agronomiade, organised by the Zagreb University Faculty of Agriculture was held in Poreč on 21-24 May 2008. The Students Assembly Chapter, IAAS, STUDA and the FAZ Sports Group teamed up with the International Relations Office and the Faculty staff in organization of this event.

The Agronomiade attracted about 220 participants from the University of Debrecen, University of Agricultural Sciences and Veterinary Medicine - Cluj Napoca, University of Hohenheim, BOKU - University of Natural Resources and Applied Life Sciences from Vienna, Faculty of Agriculture - Mostar, Faculty of Agriculture - Osijek and Faculty of Agriculture - Zagreb.

The Agronomiade program envisaged for the students to present their scientific research achievements, to participate in a round table, in sports events (table tennis, chess, futsal and volleyball), and to exhibit their art.

The meeting was open at the Zagreb Faculty of Agriculture on 21 May 2008. The participants were addressed by Professor Milan Mesić, PhD, Dean for International Relations. A tour was organized of the Biotechnology Laboratory of the Department of Plant Breeding Genetics, Biometrics and Experimentation. During the second day, the students were hosted in Poreč, where they presented their scientific research achievements. The facilitators were Assistant Professor Marina Piria, PhD and teaching assistants Ivica Kos, Ana Kaić and Aleksandra Jurčević. Twenty papers were presented. During the afternoon, the round table was held moderated by Ivana Žganjar from the International Relations Office. The purpose of the round table was to present activities of the students' associations and groups and enable international exchange of experience that will enable future collaboration. In the evening, the IAAS organized presentation of the Istrian delicacies and a workshop on wine testing, in cooperation with the best Istrian winemakers and the Institute of Agriculture and Tourism from Poreč, and the Istrian and Dalmatian prosciutto presentation by Ivica Kos. The poetry of Nelly Majcen Pračinec and song by the Falkušo Harmony Singing Group contributed to the atmosphere. On 23 May 2008, technical excursions were organized: a visit to winemakers and olive growers and olive oil producers. The farewell party was an occasion to present the awards, and the participants were addressed by the Faculty of Agriculture Dean, Professor Davor Romić, PhD. The sports events, competitions in table tennis, chess, futsal and volleyball, were organized concurrently with other events. On 24 May 2008, the participants parted. (Sports results are given in section 7.8.3).

## 7.6 Awards and Certificates of Merit Presented to Students

### 2006/2007 Rector's Award

- Duška Ivelić, Ines Jablan, Sunčana Svjetličić: Terms for growth of loach from the Sava river, Animal Science/Fisheries, Marina Piria, PhD
- Ana Šalinović: Morphological diversity within genus *Ocimum*, Plant Science/Plant Protection, Professor Zlatko Šatović, PhD
- Zoran Vukašinović: Influence of paragenetic factors on production and composition of milk of Pag sheep, Animal Science/Animal Husbandry, Professor Neven Antunac, PhD

### 2006/2007 Dean's Best Student Paper Award

- Marina Atlija, Tihana Ljubaj: Entrepreneur improve access to breeding cattle through the establishment of cooperative, Agricultural Economics, Professor Vjekoslav Par, PhD
- Danijel Čiček: Parthenocarpy of pear, Plant Science/Pomology, Assistant Professor Boris Duralija, PhD
- Janja Glavina, Maja Bernfest: Quality of strawberries produced using green tray plants in Croatia, Plant Science/Pomology, Viticulture, Enology, Sandra Voća, PhD
- Marinka Kutle: Effect of foliar fertilization and water deficit on potato physiological properties, Plant Science/Gardening, Professor Milan Poljak, PhD
- Maja Milanović, Đurđica Piljak, Katarina Štimac: Conservation of bean landraces, Plant Science/Gardening, Professor Zlatko Šatović, PhD
- Rajan Pranjić, Marko Kos, Nikola Štula: Agricultural food products packaging – today and tomorrow, Agricultural Engineering, Assistant Professor Stjepan Pliestić, PhD
- Ida Rupčić, Marina Tomić, Magdalena Zrakić: Marketing of light products in Zagreb – consumer survey, Agricultural Economics, Assistant Professor Marija Cerjak, PhD

### Certificates of Merit for Student's Performance

#### a) New study program

Name	Study	Year	Average grade
Igor Palčić	Horticulture	1st	4.82
Jasmina Bertoša	Plant Science	1st	4.64
Iva Bažon	Horticulture	1st	4.64
Petra Boldin	Agricultural Economics	2nd	4.64
Ani Bernobich	Horticulture	2nd	4.57
Marina Tomić	Agricultural Economics	2nd	4.45

#### b) Old study program

Name	Study	Year	Average grade
Ana Ribić	Plant Science, Plant Protection	3rd	4.57
Martina Bogeljčić	Plant Science, Plant Protection	4th	4.57

## 7.7 Report on Physical and Health Culture Course

Teaching Staff:

Assistant Professor Romana Caput-Jogunica, DSc and Sanja Ćurković, MSc

The Physical and Health Culture Course at the Faculty of Agriculture focuses on optimum improvement in motoric knowledge and capacities and characteristics crucial for successfully studies and professional life in the future. The Physical and Health Culture Course is an upgraded secondary school program which merges educational, anthropological and upbringing components. The educational component concerns improvement in theoretical and practical motoric knowledge, as a continuation of the secondary school courses. The anthropological component focuses on systematic and permanent preservation and improvement in morphological, motoric and functional characteristics of the students carried out by the course teaching staff in cooperation with Tonka Čavlek, MD and Vesna Juhović Markus, MD, which are the Faculty GPs. Additionally, a systematic research is conducted into the health status of the 1st year students, their nutrition and previous sports results, all in order to determine their physical capacities and level of exercise. The upbringing component includes encouragement of positive attitude towards exercise, which should result in lifelong habit of individual exercises. The students who are interested join the sports group and participate in sports events, and thus make personal progress in different sports activities.

In order to determine physical activities of the students and their habits with regard to nutrition, physical activity and risk behaviour, a questionnaire was developed and a survey conducted on 362 first-year students (222 female and 140 male students) during the initial lecture in the academic year 2007/2008. The questionnaire analysis shows that 34 students are involved in sports on permanent basis, and 68 students get involved occasionally.

The following athletes are the Faculty of Agriculture students:

Mateja Petronijević - top athlete, 1<sup>st</sup> category  
Vedrana Deren - top athlete, 3<sup>rd</sup> category

As regards their interest in individual kinesiological activities, which are the part of the Physical and Health Culture Course, female students are mostly interested in group fitness programs (aerobics and fitness-room), and students in sport games (futsal and basketball). The female students are also interested in badminton and swimming, and male students in fitness-room programs.

During the academic year 2007/2008, the Physical and Health Culture Course was held at the following locations:

- Faculty of Agriculture - chess
- Faculty of Agriculture (fitness) - group fitness program, table tennis, dancing
- Utrine Swimming Pool - swimming
- Faculty of Economy Gym - sport games and aerobics
- Mt. Medvednica - walking trails
- Martinovka Gym - marshalling arts, together with other faculties of the University of Zagreb
- Jarun Sports and Recreation Center - rowing, roller-skating
- Zagreb Fair (Pavilion 25) - badminton
- ZET Shooting Range - riflery

Within their scientific and professional activities, the teaching staff published a number of papers and presented them at national and international congresses.

## 7.8 Report on the FAZ Students Sport Results

### 7.8.1 At the FAZ

The Faculty of Agriculture Sports Society (SUAF) organized, in collaboration with the teaching staff of the Physical and Health Culture Course, extracurricular sport activities and competitions for students of all study years. The Faculty has a long tradition of organizing sports events, aimed at involving as many students as possible and promoting active way of living and recreational sports.

During the academic year 2007/2008, numerous sports events and championships were organized for the Faculty of Agriculture students and staff. The results are presented chronologically.

#### Faculty Christmas Tournament

##### Table tennis

Male students	1. Dario Ivić, 2. Miroslav Frančić, 3. Krešimir Fijačko, 3. Zoran Turk
Female students	1. Tina Stipičić, 2. Mirjana Pavlič, 3. Maja Koprivnjak

##### Chess

Male students	1. Đuro Vilar, 2. Ilija Dumančić, 3. Vili Jelčić
Female students	1. Matilda Bergić, 2. Ana Novosel, 3. Ina Horvat

##### Riflery

FAZ staff	1. Usama Kalit, 2. Juraj Mihanović, 3. Nikola Lesičar
Male students	1. Marijan Gajšak, 2. Franjo Blašković, 3. Zoran Vukašinović
Female students	1. Marija Sesvečan, 2. Sanja Jakopović, 3. Martina Brežnjak

##### Agronomija 2008 Futsal Cup

Kamosutra	Kunjašić, Brebrić, Turčinov, Mioković, Boltužić, Jelača, Antunović, Cervčec, Franc
Ječemeni hibrid 37	Gršković D., Kukoleča, Gršković V., Ban, Fundurulić, Pušić, Rajić, Mihaljević
Big bang	Dukarić, Koraca, Martinčić, Kušec, Šebrek
Unique	Tominac, Tišljarić, Jelčić, Knežić, Mareković, Angel, Barković

#### Easter Tournament

##### FAZ Cross-country

A hundred and six students (35 male and 71 female) took part in the traditional FAZ cross-country race.

Male students	1. Tomislav Mioković, 2. Srećko Bošković, 3. Igor Cerovčec
Female students	1. Nina Pilat, 2. Davorka Mališa, 3. Dunja Dukić

##### Swimming

Male students 50 m freestyle	1. Petar Milas 27.81, 2. Matija Đurinek 30.09, 3-4 Roko Štokov and Tomislav Bulat 30.78, 5. Denis Mehmedović 30.95, 6. Krešo Cundeković 34.28
Male students 50 m breast stroke	1. Petar Milas 41.06, 2. Matija Đurinek 42.28, 3. Denis Mehmedović 42.28, 4. Roko Štokov 42.44, 5. Tomislav Bulat 43.24, 6. Krešo Cundeković 49.41
Female students 50 m freestyle	1. Sara Stojaković 39.62, 2. Tajana Palada 44.10
Female students 50 m breast stroke	1. Sara Stojaković 39.00, 2. Tajana Palada 56.52, 3. Martina Kovačević 59.70

FAZ staff	1. Usama Kalit, 2. Juraj Mihanović, 3. Zoran Salopek
Male students	1. Franjo Blašković, 2. Zoran Vukašinović, 3. Marijan Gajšak
Female students	1. Marija Sesvečan, 2. Martina Brežnjak, 3. Milena Mihaela

## Riflery

## Table tennis

### FAZ June Tournament

Male students	1. Frančić, 2. Fijačko, 3. Duralija, 3. Svečnjak
Female students	1. Mikulić, 2. Pavlić, 3. Petrić, 3. Stracenski

### Sokaz Table Tennis League

Faculty of Agriculture I – III. league -1st, enter II. league  
 Faculty of Agriculture II – VI. league - 1st, enter IV. league  
 Faculty of Agriculture III – VIII. league - 10th, moved to IX. league  
 Faculty of Agriculture IV – XXI. league - 3rd, enter XX. league

### Participation in tournaments:

Stubica Table Tennis Cup, Donja Stubica  
 Josip-Joža Vogrinc Memorial, Zaprešić  
 Zabok Open Championship  
 Samobor Open Championship  
 Vodovod Table Tennis Tournament, Zagreb

Results of the FAZ students at the University of Zagreb championships and tournaments, by sports.

## 7.8.2 At the University

1st male students	Zoran Vukašinović, Mario Hat
2nd female students	Sanja Jakopović, Martina Brežnjak

## Riflery

4th female students	Nina Pilat, Jelena Trputec, Romina Bernobich
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## SN Cross-country

2nd male student	Karlo Lacković,
2nd female student	Ivana Radić

## Judo

6 <sup>th</sup> in B Finals	Goran Fruk, Joško Škarić, Tone Grubešić, Kazimir Koraca, Nikola Tamburić, Damir Nemet, Emil Salihagić, Darko Drljepan, Ivica Skočibušić, Ivan Stupnišek, Jakov Ćurko, Lovre Miklaužić, cox: Maja Žulj
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## Rowing

3 <sup>rd</sup>	Mario Skelin, Denis Bužić, Toni Vitaljić, Zoran Kežić, Vedran Forjan, Janko Šobar, Janko Kezele, Mario Kolumbić, Ivan Kraljević, Nikola Lesičar, Ivan Petković, Karlo Popović, Filip Zorić, Nikola Tomasović
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## Handball (male)

6 <sup>th</sup>	Josipa Spajić, Jelena Milakara, Marija Sesvečan, Iva Tokić, Suzana Gakić, Nada Repušić, Ana Loparić, Ivana Jugović, Jelena Gavran, Jadranka Žderić, Andreja Mihalic, Ivana Perišić
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## Handball (female)

**Volleyball (female)**

Iva Cvetnić, Vedrana Regina, Iva Prgomet, Ana Jezidžić, Tijana Čavara, Nina Fočić, Kristina Božanović, Nives Šoić, Maja Maslek, Irena Kosjek, Iva Bažon, Nina Pilat, Zrinka Krnjak

**Basketball**3<sup>rd</sup>

(Darko Dujlović, Branimir Jelić, Jakov Kolega, Kruno Međimurec, Anton Naletilić, Jan Pecina, Ivan Petković, Tomislav Ramljak, Marko Suzić, Hrvoje Šimunović, Toni Škarić, Danijel Talijanac, Filip Zorić, Dinko Perković – Jukić)

**Futsal**3<sup>rd</sup>

(Ivan Babić, Ivan Zadavec, Nikola Tišljarić, Tomislav Kušec, Nikola Dukarić, Kazimir Koraca, Dubravko Vukašinec, Matija Čorak, Boris Angel, Petar Živković, Martin Martinčić, Petar Đikanović, Ivan Biščan, Marko Klarić, Josip Juraj Tominac)

**Table tennis**

Male, individual:

Ivić - last sixteen, Frančić - last sixteen

Male, doubles:

Fijačko, Frančić - quarter finals, Ivić, Kolak - quarter finals

Teams:

AGF1 (Frančić, Fijačko, Ivić) - quarter finals,  
AGF2 (Javor, Kolak) - last sixteen

Female, individual:

Mia Mikulić - quarter finals

Female, doubles:

Mirjana Pavlič, Tina Petrić - quarter finals, Mia Mikulić, Tina Stipić - quarter finals

Mixed doubles:

Fijačko, Mikulić - quarter finals, Frančić, Stipić - quarter finals

Teams:

AGF1 (Tina Stipić, Mia Mikulić, Maja Koprivnjak) - quarter finals,  
AGF2 (Mirjana Pavlič, Tina Petrić) - quarter finals**Chess**11<sup>th</sup>

Đuro Vilar, Kruno Pavlović, Kuzma Stančić and Vili Jelčić

**7.8.3  
Agronomiade 2008**

Sports results:

**Table tennis**

Female students

1. Faculty of Agriculture, Zagreb
2. Faculty of Agriculture, Osijek
3. University of Agricultural and Veterinary Medicine, Cluj Napoca

Male students

1. Faculty of Agriculture, Zagreb
2. University of Agricultural and Veterinary Medicine, Cluj Napoca
3. Faculty of Agriculture, Mostar
4. Faculty of Agriculture, Osijek

**Futsal**

1. Faculty of Agriculture, Osijek
2. Faculty of Agriculture, Mostar
3. Faculty of Agriculture, Zagreb
4. University of Debrecen
5. University of Agricultural and Veterinary Medicine, Cluj Napoca

- 

  1. Faculty of Agriculture, Osijek
  2. University of Agricultural and Veterinary Medicine, Cluj Napoca
  3. Faculty of Agriculture, Zagreb
  4. Faculty of Agriculture, Mostar

## Volleyball

- 

  1. Faculty of Agriculture, Osijek
  2. Faculty of Agriculture, Zagreb
  3. University of Agricultural and Veterinary Medicine, Cluj Napoca

## Chess

## 7.9 Student Extracurricular Activities

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Harmony singing has been a traditional extracurricular activity at the FAZ for ten years. During that period, the Falkuša Harmony Singing Group (klapa) has been joined by numerous students, so it is believed that about one hundred singers have been members of the group for longer or shorter time. It has not been easy to maintain high quality of performance with such fluctuation, but Mate Bobinac (coordinator) and Maestro Dinko Fio (artistic leader) have succeeded.

### 7.9.1 Harmony Singing

During the last five years, Falkuša regularly qualified into the finals of a prestigious Omiš Harmony Singing Groups Festival. At the 2007 Omiš Festival, Falkuša singers were: Lucija Ćustić, Jasmina Ćurković, Nikola Birin, Marko Lelas, Luka Čulina, Vedran Andrijašević, Nikola Matković, Davor Pleadin and Fabjan Ostović.

During the reporting period, Falkuša had a number of performances: at the Faculty Day, European Congress of Animal Breeders, University Garden party, a charity concert for medical treatment of three girls in China, the Faculty Christmas Party, the audition for the 2008 Omiš Festival, 5<sup>th</sup> concert in a cycle Dalmatian Harmony Singing Groups to the City of Zagreb.

The Group members are:

Nada Vacić	Marko Radović
Marija Peronić	Nikola Birin
Marko Lelas	Zorica Radunić
Luka Čulina	Davorka Andrić
Vedran Andrijašević	Davor Pleadin
Fabijan Ostović	

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During the academic year 2007/2008, blood donation drives were organised for the Faculty staff and students in cooperation with the Croatian Institute for Transfusion Medicine. This humanitarian action is usually organised twice a year, in spring and autumn. The Faculty coordinator is Mate Bobanac, PhD, who had full support from the Faculty management in his promotional activities among the students and staff. A particularly important event was the April appeal of the Croatian Institute for Transfusion Medicine for donation since the blood stock were minimum. The reaction was prompt. During the previous academic year 94 doses of blood were collected.

### 7.9.2 Blood Donations



## 8. The Faz Promotional Activities

### 8.1 Introduction

Being the leading institution of the sort in Croatia, which plays an important role in the region and is internationally recognised, the Faculty has to take all necessary steps to keep all the interested parties informed and thus provide conditions for smooth implementation of its basic activity – teaching, scientific research and professional work. One of its primary tasks is promotion of the agricultural profession.

The third generation of students enrolled in new undergraduate study programs started its studies, and some study programs are very attractive for the students, as the number of applications shows. This is certainly due to timely promotional activities performed at the 12<sup>th</sup> University Convention, and active participation at the Science Festival. The FAZ teaching staff got pro-actively involved in creation and introduction of undergraduate, graduate and specialised studies in the field of agriculture in Croatia and abroad, such as the inter-university undergraduate study in Mediterranean Agriculture in collaboration with the University of Split, specialised study at the Marko Marulić Polytechnic in Knin, and the related study at the University of Mostar Faculty of Agriculture in Bosnia and Herzegovina (More details under Teaching Activities, above.)

Important activities aimed at promotion of the Faculty include productive scientific research and professional involvement, publishing of scientific and professional papers in the Croatian and international journals, publishing of books and studies, presence at the Croatian and international congresses and symposia, pro-active involvement in production sector and education of farmers, and promotion of our profession in public media, development of studies used as supporting documentation for drafting the legislation and measures of the agricultural and rural policy, etc. The results of these activities are described in more detail under sections Teaching Activities and Teaching and Scientific Research Activities of FAZ Departments herein.

This reporting period was marked with numerous visits of the Croatian and foreign guests, and trips of our representatives to similar institutions in Croatia and abroad. The FAZ management, staff members and researchers continued the cooperation and made new contacts with representatives of the international academic community, local and foreign scientific researchers and experts, and farmers.

Same as in previous Reports, the awards and certificates of merit received by the FAZ and its members during the reporting period are given below. On the Faculty Day, 26 September, the Faculty traditionally presented certificates of merit to the members of its staff for their contribution, and received numerous recognitions and certificates of merit from other institutions.

## 8.2 Merit Plaques, Certificates of Merit and Awards Presented by the Faculty

On the 2007 Faculty Day, the following members of staff were presented with:

Merit Plaque for special merits and contribution to promotion of the scientific research, education, professional discipline and reputation of the Faculty and agricultural profession in Croatia and worldwide

- Professor Jasmina Havranek, PhD

Certificate of Merit with Medal for exceptional contribution to the scientific research, education and professional discipline

- - Professor Vesna Pavić, PhD
- - Professor Tajana Krička, PhD

Certificate of Merit with Medal for tenure appointment

- Professor Boris Varga, PhD

Certificates of Merit for the first full-professor appointment

- Professor Ivica Aničić, PhD
- Professor Roman Safner, PhD

Awards to Other Staff

- Marija Ploj, for exceptional dedication, individual and creative approach to her work
- Kata Lavrić, for years of exceptional dedication to her work
- Ivan Kenđelić, for years of exceptional dedication to her work

## 8.3 Merit Plaques, Certificates of Merit and Awards the Faculty Received from Other Institutions

Merit Plaque

From Ministry of Agriculture, Forestry and Water Management

- for participation in Eko-etno Hrvatska Fair

Merit Plaque

Dalmatia Cooperative Union

- for contribution to organization of the 9th International Convention of Mediterranean Olive Growers and Oil Producers held in Supetar in 2007.

Merit Plaque

Scientific Board of the International Symposium Krmiva

- for significant scientific and professional contribution to organization of the International Symposia Krmiva, on the occasion for its 15th anniversary, for 15 years of successful collaboration

Merit Plaque

Croatian Mine Action Center - Center for Testing, Development and Training

- for support and encouragement to development of new technologies of mines clearance and advancement in activities against mines in Croatia

Merit Plaque

Relaksacijsko edukacijski centar

- for financial support to the project Healthy Children - our Future

Certificate of Merit

Dalmatia Cooperative Union

- for collaboration and advancement of cooperatives (on marking 100th anniversary of the Cooperative Union)

Award for runner-up in best exhibition stand category at the Eleventh Convention (Fair) of the University of Zagreb presented by the University of Zagreb

Merit Plaques, Certificates of Merit and Awards the Faculty Staff Received from Other Institutions:

2007 National Science Award in the field of biotechnical sciences presented by the Ministry of Science, Education and Sports

- Professor Tomislav Treer, PhD

Award Laureate Counsellor of the Faculty of Agricultural Sciences

Szent István Agricultural University, Gödöllő, Hungary

- Professor Ivica Kisić, PhD

Merit Plaque

Faculty of Food Technology and Biotechnology

- Professor Sulejman Redžepović, PhD, for long-term cooperation and exceptional contribution to promotion of the higher education, science and profession – on the occasion of marking 50th anniversary of studies in food technology, biotechnology and nutritionism

Merit Plaque

Scientific Board of the International Symposium Krmiva

- Professor Stjepan Mužić, PhD, for significant scientific and professional contribution to organization of the International Symposia, on the occasion for its 15th anniversary, for 15 years of successful collaboration

Other Awards:

University of Maribor, Slovenia

- Champion's diploma for university wines contribution for Traminac wine - dry strawberry harvest selection

#### 8.4 Convention of the University of Zagreb

The Students' Center in Zagreb hosted the Twelfth Convention (Fair) of the University of Zagreb from 10 to 12 April 2008. The Convention is an opportunity for faculties and academies of the University of Zagreb to present the study programs to potential future students.

The exhibition stand and presentations of the FAZ studies were prepared by the undergraduate studies coordinators, Sanja Morić, MSc and Dragan Tupajić. Numerous teaching assistants, junior researchers and students from the Faculty of Agriculture joined in efforts to present the study programs and methods at the Faculty to the future students.

The Twelfth Convention was used to show promotional materials with basic information on the Faculty of Agriculture undergraduate studies and enrolment possibilities. A proof of well prepared presentation is the Certificate of Merit of the University of Zagreb received for the best printed promotional material.

### 8.5 43<sup>rd</sup> Croatian and 3<sup>rd</sup> International Symposium on Agriculture

18-21 February 2008, Opatija, Croatia

During the reporting period, University of Zagreb Faculty of Agriculture was the organizer of the 43<sup>rd</sup> Croatian and 3<sup>rd</sup> International Symposium on Agriculture. The Symposium was held in Opatija, on 18-21 February 2008, under the auspices of the Government of the Republic of Croatia. The Symposium Co-organizers were: J.J.Strossmayer University of Osijek Faculty of Agriculture, Ministry of Science, Education and Sports, Ministry of Agriculture, Fisheries and Rural Development, Balkan Environmental Association (B.EN.A), European Irrigation Association (EIA), European Society of Agricultural Engineers (EurAgEng), International Society of Food, Agriculture and Environment (ISFAE), International Soil Tillage Research Organisation (ISTRO), University of Mostar Faculty of Agriculture, Biotechnical Faculty, University of Ljubljana, Faculty of Agriculture, University of Maribor, University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca, and agricultural institutes, services and associations from Croatia. The Symposium was attended by 629 participants, of which 199 from abroad.

The Symposium aimed at establishing better collaboration between scientists from the universities, research institutions and specialists from industry, trade and other related activities, that is, producers from Croatia, Europe and the rest of the World in their common field of interest in science and agricultural practice.

The main goal of the Symposium was to present to the agronomists and the general public the results of scientific and professional work of Croatian and international specialists and in this way enable better transfer of scientific and professional achievements to agricultural production.

During the Symposium, 404 papers were presented, 178 from Croatia and 226 from abroad (25 countries). The researchers from the Faculty of Agriculture presented 72 papers. The Symposium topics covered all branches of agriculture in nine sections: 1) Agroecology and Ecological Agriculture, 2) Agricultural Economics and Rural Sociology, 3) Genetics, Plant Breeding and Seed Production, 4) Vegetable Growing, 5) Field Crop Production, 6) Fisheries, Game Management and Beekeeping, 7) Animal Husbandry, 8) Landscape Architecture, 9) Pomology, Viticulture and Enology. The papers on plant protection, agricultural engineering and technology, ornamental plants, medicinal aromatic and honey herbs and food were placed under one of the existing sections, in line with the paper topic. Plenary session addresses focused particularly on the position of the EU agricultural sector, entry of the Croatian agriculture into the EU, and production of biofuel and its effect on agriculture. Scientific research, teaching and professional achievements were presented of the Zagreb and Osijek Faculties of Agriculture between 2003 and 2007. A round table was organized on Arable Land Consolidation Policy, where the FAO experts and experts from Sweden presented experience with land consolidation and modernization of the agricultural sector in Europe, and implementation of five pilot projects on agricultural land consolidation in Croatia was described. The lectures rendered in individual sections presented recent achievements in plant breeding, biotechnology, research into new cultivars and new technologies in plant growing and domestic animal breeding, agroecology, harvest protection against disease and pests, and financial analysis of agricultural production.

The presented papers were printed in full (209 papers) or as abstracts (195 abstracts).

All the papers were peer reviewed, categorized and published in the Proceedings both as hard copy and on CD. The Proceedings are entered into the CIP

– Catalogisation in publishing of the National and University Library in Zagreb under No 656978, ISBN 978-953-6135-67-7 (book) and ISBN 978-953-6135-68-4 (CD). The Book of Abstracts has CIP record available from the National and University Library in Zagreb catalogue under No 655917, ISBN 978-953-6135-66-0 (book). The papers are accessible on the Symposium web site <http://sa.agr.hr>.

## 8.6 Participation in Science Festival

The sixth Science Festival was organized under the auspices of the Ministry of Science, Education and Sports by Universities of Zagreb, Osijek, Rijeka, Split and Zadar in collaboration with the British Council and Technical Museum in Zagreb. The Festival was held on 21-26 April, and the main topic was water. During the Festival, numerous other scientific topics were presented for general public through lectures, presentations, observations, workshops, exhibitions, scientific coffees, forums and competitions. The Faculty of Agriculture staff generated much interest of the Technical Museum visitors by lectures and workshops held during 22 April:

- Tanja Gotlin Čuljak, Dinka Grubišić: Magical World of Insects
- Sanja Morić, Nikolina Nerat: Water Gardens
- Gabrijel Ondrašek: What and How Do Plants Drink?
- Nataša Mikulec: Why Do I Drink Milk?
- Aleksandra Jurišić and Marko Petek: Are Animals Thirsty?
- Milna Tudor: Good Bacterias in Yoghurt
- Aleksandar Mešić: Good and Bad Insects
- Đani Benčić: Olive Growing – Challenge for the Future.

On 25 April, the secondary school students were presented some of scientific research activities of the Faculty of Agriculture and studying possibilities, through a program titled Food in a Test Tube organized by Aleksandar Mešić, Nataša Mikulec, Milna Tudor, Aleksandra Jurišić and Gabrijel Ondrašek.



## 9. International Cooperation

### 9.1 International Relations Office Organisation

The International Relations Office (IRO) consists of the International Relations Board (IRB), Dean for International Relations Professor Milan Mesić, PhD, and the IRO Officers Ivona Filipović, BSc, Ivana Popović, BSc, and Dubravka Lisičak, BA. The International Relations Board members are: Professor Milan Mesić, PhD; Assistant Professor Boris Duralija, PhD; Assistant Professor Jerko Gunjača, PhD; Assistant Professor Josip Juračak, PhD; Assistant Professor Dubravko Maćešić, PhD; Professor Ivan Pejić, PhD; Assistant Professor Marija Cerjak, PhD; Assistant Professor Marija Romić, PhD; Professor Sanja Sikora, PhD; Assistant Professor Zlatko Svečnjak, PhD, and Assistant Professor Dragan Bubalo, PhD (by decision of the FC of 13 May 2008).

Ivona Filipović, BSc has been at the maternity leave since 1 December 2007. On 1 January 2008, Ivana Žganjar, BSc has been employed as a stand-in for Dubravka Lisičak, BA who has been at the maternity leave since 1 June 2007

### 9.2 IRO Scope of Activities

The IRO activities include:

Regular informing of the FAZ staff members and students on available international cooperation programs

- regular browsing of relevant web sites: Ministry of Science, Education and Sports, University of Zagreb, Ministry of Foreign Affairs and European Integration, Ministry of Agriculture, Fisheries and Rural Development, Ministry of Regional Development, Forestry and Water Management, Interuniversity Consortium of Agricultural and Related Universities (ICA), etc.;
- collecting information on possibilities for involvement of the FAZ, its staff and students into various international programs and organizations for interest for the FAZ;
- regular and timely posting of notices on calls for scholarship, project, exchange applications (notice boards, web site, e-mail);
- answering queries and distributing information by electronic mail;
- organization of different topical workshops towards increase in quantity and quality of international cooperation.

Assisting both the FAZ staff members and students in establishing international contacts, locating institutions and projects beneficial to their advancement, acquiring and completing necessary forms, in regulating their status in case of bilateral contracts, in supplying information relevant for trips to individual countries and similar activities

Assistance in organising international lectures and visits of foreign scientists at the FAZ

- organization of the FAZ lecturers visits (meetings, lectures, etc.);
- booking lecture halls;
- drafting, dissemination and posting of lecture notifications – by electronic mail, notice boards, web site;
- writing letters of invitation, if necessary;
- booking accommodation for visitors, if necessary.

Assisting foreign students, informing them on studying conditions and participation in the FAZ educational process and research projects, assisting them on their arrival and during their stay at the FAZ

- first contact by e-mail;
- finding accommodation – booking accommodation;
- organizing the FAZ visiting student stay;
- assisting in resolving problems such as getting monthly public transport tickets, applications, medical insurance, opening of bank accounts, etc.

Assisting in preparation of applications and administering of international projects

Administering Call for Proposals for International Cooperation Incentives

International promotion of the FAZ

Recording of international cooperation

- keeping in-house records on international cooperation – staff and students written reports, preparation of an annual report on international cooperation;
- posting of the FAZ international cooperation data on the University of Zagreb internet pages: <http://medjunarodna.unizg.hr/>

Organisation and preparation of IRB meetings, keeping the Minutes and their distribution

Assisting the Dean in contracting bilateral and multilateral scientific research and teaching agreements and in running regular international business

- informing the FAZ staff and offering clarifications;
- drafting the agreements;
- maintaining active cooperation.

Administering different European and other programs

- CEEPUS Program;
- TEMPUS Program;
- ERASMUS MUNDUS Program, and others.

Preparing annual IRO plan of activities and objectives

- participation in meetings, workshops, conferences;

Archives all documentation related to the international cooperation - contracts, agreements, reports, IRB minutes of meetings

Cooperation in creation of information package for introduction of the ECTS system.

The following promotional material is available from IRO:

- the FAZ brochures;
- brochures on international higher education institutions;
- Zagreb Tourist Board; and
- Croatian Tourist Board brochures, etc.

### 9.3 IRO Activities during the Reporting Period 1 June 2007 - 31 May 2008

The International Relations Board meets regularly to resolve current problems. During the reporting period, IRB held five regular sessions.

Good collaboration continued with the umbrella International Relations Office of the University of Zagreb, the Ministry of Science, Education and Sports, Ministry of Foreign Affairs and European Integration, Ministry of Agriculture, Fisheries and Rural Development, and Ministry of Regional Development, Forestry and Water Management. New contacts were established with different international and Croatian institutions.

The IRO distributes all the information received to the FAZ staff in printed form or by e-mail, and posts it on the notice board and the FAZ web site.

The IRO staff and the IRB members participated in numerous conferences, workshops and discussions related to the international exchange, cooperation and projects. The IRO organised numerous international lectures and a number of workshops.

### 9.4 Call for Proposals for International Cooperation Incentives

■ During the reporting period, HRK 29,520.00 were withdrawn between 31 May 2007 and 1 June 2008 on the basis of the Call for Proposals for the financial year 2007, and the Call for Proposals was consequently concluded. Total funds approved on the basis of this Call for Proposals amounted to HRK 102,272.00. Between 7 February 2007 and 31 June 2008, the amount withdrawn was HRK 88,481.05. Two applicants did not withdraw the approved funds.

■ The Call for Proposals for the financial year 2007 was open between 15 October and 15 November 2007. Based on an annual plan and funds available from the International Cooperation Fund, the IRB decided on the basis of the Rules on Granting of International Collaboration Incentives to allocate the available HRK 100,000.00 as follows:

- 35%, i.e. HRK 35,000.00 for establishing of international relations and cooperation,
- 15%, i.e. HRK 15,000.00 for scholarships for talented regular graduate and post-graduate students at the international educational institutions,
- 20%, i.e. HRK 20,000.00 for scholarships for talented foreign graduate and post-graduate students for education at the FAZ,
- 20%, i.e. HRK 20,000.00 for covering of expenses of visiting international scientists and professors, and
- 10%, i.e. HRK 10,000.00 for other international relations activities carried out in 2007.

Based on submitted proposals, the IRB decided on allocation of the funds at its meeting of 7 February 2008. Total funds allocated in the process amount to HRK 100,300.00.

Between 7 February and 1 June 2008, HRK 37,997.59 was withdrawn from the funds approved for 2008.

#### 9.4.1 Call for Proposals for International Cooperation Incentives for the Financial Year 2007

#### 9.4.2 Call for Proposals for International Cooperation Incentives for the Financial Year 2008

## 9.5 International Collaboration and Exchange

### 9.5.1 International Visits to the FAZ

Visit of Professor Hans Schenkel PhD and Jochem Gieraths, PhD, University of Hohenheim, Germany – 4-6 June 2007. During the visit, Professor Hans Schenkel, PhD was asked by Professor Davor Romić, PhD to deliver a lecture on Developments in Soil Analysis for the Need of Soil Fertility, Soil Monitoring and Protection, and he was organized a tour of the laboratories of the Soil Amelioration, General Agronomy, Soil Science and Plant Nutrition Departments. Jochem Gieraths, PhD was asked by Professor Milan Mesić, PhD to render a lecture titled Scientific Management – from the Point of View of the Eastern Europe Centre of the University of Hohenheim. During their visit, meetings were held with Professor Milan Mesić, PhD on 4 June 2007, and with Professor Davor Romić, PhD on 6 June 2007. The meetings were dedicated to discussions on future cooperation.

Visit of scientists from “Centro Nazionale di Ricerica”, Bari, Italy – 16-19 July 2007. Within cooperation on the INTERREG III A (VIVAPROVIT) Project, Pier Frederico La Notte, PhD and Angelo Margaliano, PhD visited the Department of Plant Pathology.

Visit of Professor Márta Birkás, PhD, Szent István University Gödöllő, Hungary –6-8 December 2007. Professor Márta Birkás, PhD visited the Department of General Agronomy, and during her visit she rendered a lecture titled Climate Harm Mitigation Possibilities by Adaptable Soil Tillage”.

Visit of Professor Rameshwar S. Kanwar, PhD, Iowa State University, Department of Agricultural and Biosystems Engineering, USA –10-13 February 2008. Upon invitation of Professor Davor Romić, PhD, Professor Rameshwar S. Kanwar rendered a lecture titled EU Nitrate Directive and Best Management Practices to Control Nitrate Pollution in Watersheds. During his visit, Professor Rameshwar S. Kanwar had a meeting with Professor Davor Romić and Professor Milan Mesić on 11 February 2008, during which future cooperation was discussed.

### 9.5.2 Workshops, Congresses and Seminars held at the FAZ

Kick-off Conference “Tempus JEP\_41143\_2006 project: Support Network for Improvement of the Strategic Planning” – 24-25 October 2007

On 24-25 October 2007, the FAZ hosted a Kick-off Conference on Tempus Project Support Network for Improvement of the Strategic Planning. The Faculty of Agriculture was the Conference organizer, and it attracted 51 participants from 11 countries. The Conference kicked-off a project by detailed elaboration of its tasks and objectives. The Conference was attended by all the partners/representatives of nine faculties of agriculture from Belgrade, Novi Sad, Osijek, Podgorica, Priština, Sarajevo, Skopje, Tirana and Zagreb, three universities from the European Union (University of Hohenheim, University of Natural Resources and Applied Life Sciences - BOKU, Slovak University of Agriculture in Nitra), representatives of the German Rectors’ Conference and three individual experts.

Conference “Lifelong Learning in Higher Education of Agro-Food Sector” – 22 November 2007

On 22 November 2007, within the Tempus project JEP\_19052\_2004, a conference on Lifelong Learning in Higher Education of Agro-Food Sector dedicated to lifelong learning within the higher education system in the field of agro-food sector was held at the FAZ. The Conference organizers were Križevci Polytechnic and the FAZ, and it was attended by 33 participants.

International Seminar InterReg, AgriTraining Project – 7-11 April 2008

On 7-11 April 2008, an International Seminar InterReg was held at the FAZ. The Seminar was organized within EU INTERREG IIIA Project Training, Cooperation and Knowledge in Rural Development (AgriTraining). The lecturers were scientists from the FAZ, representatives of the Ministry of Agriculture, Croatian development agencies, Croatian Chamber of the Economy, Zagreb County, VG Entrepreneurship Center and the NGOs. Representatives of the Italian regional agencies for rural development and Croatian delegates took part in the Seminar.

Workshop On Successful FP7 Project Application and Commercial Use of Results – 15-16 April 2008

On 15-16 April 2008, a Workshop On Successful FP7 Project Application and Commercial Use of Results was held at the FAZ. The Workshop was organized by Medora Ltd, and the lecturers were Danica Ramljak, PhD (Medora Ltd), Assistant Professor Alemka Markotić, PhD (Dr. Fran Mihaljević University Hospital for Infective Diseases), Nataša Maršić, PhD (HIT), Assistant Professor Melita Šalković, PhD (University of Zagreb Medical School), and Fran Borovečki, PhD (University of Zagreb Medical School). The workshop participants came from the Faculty of Agriculture, Faculty of Forestry, and Faculty of Food Technology and Biotechnology of the University of Zagreb.

International Short Course on Introduction to Spatial Data Processing – 21-24 April 2008

On 21-24 April 2008, the International Short Course on Introduction to Spatial Data Processing was held at the FAZ within the postgraduate studies course in Agricultural Sciences. The workshop was held by Annamaria Castrignano, PhD (CRA – Agronomic Research Institute, Italy) who was invited by Assistant Professor Marija Romić, PhD.

“Workshop on the Integration of Remote Sensing and Modeling in Agriculture – 25 April 2008

On 25 April 2008, Workshop on the Integration of Remote Sensing and Modeling in Agriculture was held at the FAZ within the postgraduate study program in Agricultural Sciences. The lectures were rendered by Professor Reiner A. Feddes, PhD (Wageningen University, Environmental Sciences Group, The Netherlands) and Professor Guido D’Urso, PhD (University of Naples Federico II, Department of Agricultural Engineering and Agronomy, Italy) who were invited by Professor Davor Romić, PhD.

#### International Lectures Rendered at the FAZ

Miklos Toth, PhD, Science Advisor, Plant Protection Institute, Hungarian Academy of Sciences, Hungary – upon invitation of Professor Božena Barić, PhD rendered his lecture titled Pheromone Communication and How to Use Pheromone Traps Properly – 25 April 2008.

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- in June 2007, Professor Milan Mesić, PhD participated in B.EN.A. Conference The Importance of The Ecological Belts Surrounding Metropolitan Cities (Istanbul, Turkey, 14-17 June 2007)
- in July 2007, Professor Milan Mesić, PhD, Assistant Professor Željko Jukić, PhD and Ivana Popović, BSc participated in B.EN.A. Conference Sustainable Development in Balkan Area: Vision and Reality“ (Alba-Iulia, Romania, 17-19 July 2007)

#### 9.5.3 Participation in International Congresses and Symposia, Technical Visits

- In August and September 2007, Professor Davor Romić, PhD, Professor Milan Mesić, PhD, Assistant Professor Josip Juračak, PhD and Assistant Professor Mihaela Britvec, PhD participated in ICA – Week of Conferences (Freiburg, Germany, 27 August–2 September 2007)
- In November 2007, Professor Milan Mesić, PhD, Professor Davor Romić, PhD, and Professor Milan Pospíšil, PhD visited the University of Agricultural Sciences and Veterinary Medicine, Cluj Napoca to discuss the prospects of interuniversity scientific and educational cooperation (Cluj Napoca, Rumania, 22-24 November 2007)
- In April 2008, Professor Milan Mesić, PhD and Professor Milan Poljak, PhD participated in ICA-NASULGC Annual Conference Moving from the Sciences of Agriculture to the Sciences of Life; an international perspective (University of Missouri, St. Louis, USA, 4-13 April 2008)
- In April 2008, Professor Milan Mesić, PhD participated in Tuning Dissemination Conference I (Brussels, Belgium, 20-25 April 2008)
- In May 2008, Professor Milan Mesić, PhD, Professor Ferdo Bašić, PhD, and Professor Ivica Kisić, PhD participated in B.EN.A. conference Management and Sustainable Marine Development (Constanta, Romania, 15-17 May 2008)

#### Participation in Workshops in Croatia

- In October 2007 Ivona Filipović, BSc attended the lecture rendered by Dr. Mary Ann Rozun Cooperation with USA in the Field of Scientific Projects at the University of Zagreb (Zagreb, 29 October 2007)
- In December 2007, Ivana Popović, BSc attended a lecture titled Scholarships for Studies in Croatia and Abroad held at the University of Zagreb Law School (Zagreb, 13 December 2007)
- In January 2008, Ivana Popović, BSc attended a Seminar on the Lifelong Learning Programme (LLP) – ERASMUS organized by the Agency for Mobility and EU Programs, Ministry of Science, Education and Sports and the Embassy of the Republic of France (Zagreb, 15 January 2008)
- In February 2008, Ivana Popović, BSc participated in 43rd Croatian and 3rd International Symposium on Agriculture (Opatija, 18-21 February 2008)
- In March 2008, Professor Milan Mesić, PhD and Ivana Popović, BSc participated in a seminar Tempus IV Information Day Croatia organized by the Croatian National Tempus Office of the Agency for Science and Higher Education (Zagreb, 5 March 2008)
- In March 2008, Ivana Popović, BSc participated in the International cooperation Days at the Faculty of Organization and Computer Sciences (Varaždin, 8 May 2008)

## 9.6 International Projects

### 9.6.1 ■ TEMPUS JEP 19009\_2004 “Agribusiness Higher EducAtion Development” (AHEAD)

#### Basic Project Data:

Project Contractor: University of Debrecen, Faculty of Agricultural Economics and Rural Development, Hungary, Professor László Kárpáti

Project Coordinator: University of Zagreb Faculty of Agriculture, Assistant Professor Josip Juračak, PhD

Other Project Partners: Wageningen University of Hohenheim, Scottish Agricultural College, the Ministry of Agriculture, Forestry and Water Management, Institute for Adriatic Crops and Karst Reclamation, Institute of Agriculture and Tourism, Croatian

Agricultural Extension Institute, Agrokor d.d., Croatian Chamber of the Economy, Croatian Employers Association, Croatian Society of Agricultural Economists.

Project duration: 3 years

TEMPUS grant: EUR 499,998.00

Contribution of consortium members: EUR 31,700.00

■ Within the TEMPUS Project Development of a Professional BSc and MSc Course and Short Professional Courses in Farm Production & Management, in which FAZ is a partner (Professor Ivan Pejić, PhD), the FAZ teaching staff participated in the second workshop organised in Križevci. The first workshop was held on 12 July 2007, and the FAZ was represented by: Assistant Professor Zlatko Svečnjak, PhD and Assistant Professor Dubravko Mačević PhD. The second workshop was held on 20–23 November 2007, and the FAZ was represented by: Assistant Professor Zlatko Svečnjak, PhD and Assistant Professor Vesna Židovec, PhD. Within the second workshop, an international conference was organized on Lifelong Learning in Higher Education and Agro-Food Sector, held on 22 November 2007

Basic Project Data:

Project Contractor: Larenstein University of Professional Education (The Netherlands) – Mr Dijk Henk

Project Coordinator: Križevci Polytechnic – Renata Husinec, MSc

Other Project partners: University of Veszprem, Keszthely; Harper Adams University College, Newport (UK); University of Zagreb Faculty of Agriculture; J.J. Strossmayer University of Osijek Faculty of Agriculture; Croatian Cattle Breeding Center; Croatian Agricultural Extension Institute; Podravka d.d. Food Industry

Project duration: 3 years

TEMPUS grant: EUR 498,726.00

Contribution of consortium members: EUR 33,600.00

■ Basic Project Data:

Project Contractor: AGRENA - ENSAR

Project Coordinator: University of Zagreb

Project partners - Croatia (contact person/university/faculty):

- Ingrid Bauman, University of Zagreb Faculty of Food Technology and Biotechnology (Coordinator);
- Jasmina Havranek, University of Zagreb Faculty of Agriculture;
- Mirza Hadžiosmanović, University of Zagreb Faculty of Veterinary Medicine;
- Ivka Klarić, University of Split Faculty of Chemical Technology;
- Milena Mandić, University of Osijek Faculty of Food Technology.

■ Within the project Support Network for Improvement of the Strategic Planning, the Kick-off Conference was held at the FAZ ON 24-25 October 2007. It launched the project and gave detail information of the project tasks and objectives to all the partners.

#### 9.6.2

**TEMPUS JEP 19052\_2004  
“Development of a  
Professional BSc and MSc  
Course and short professional  
courses in Farm Production &  
Management”**

#### 9.6.3

**TEMPUS JEP 19068\_2004  
“Quality Management of Food  
Products”**

#### 9.6.4

**TEMPUS JEP 41143\_2006  
“Support Network for  
Improvement of the Strategic  
Planning” (SuNISP)**

Other activities within the TEMPUS SuNISP Project during the reporting period:

- Student Domagoj Kekez spent his first study trip in the workshops hosted by the EU partner universities: University of Natural Resources and Applied Life Sciences - BOKU and University of Hohenheim (Vienna, Austria, 9-13 December 2007, Stuttgart, Germany, 14-16 December 2007)
- Professor Ivan Pejić, PhD, Assistant Professor Josip Juračak, PhD, and Ivana Popović, BSc attended during their study trip workshops organized at the EU partner universities: Slovak University of Agriculture in Nitra, University of Natural Resources and Applied Life Sciences - BOKU and University of Hohenheim (Nitra, Slovakia, 27-29 January 2008, Vienna, Austria, 30-31 January 2008, Stuttgart, Germany, 1-3 February 2008)
- In February 2008, Professor Ivan Pejić, PhD held a meeting on future implementation of projects at the University of Hohenheim (Stuttgart, Germany, 27-29 February 2008)
- In March 2008, Professor Ivan Pejić, PhD took part in Project Representatives Meeting (Brussels, Belgium, 10-11 March 2008)
- Professor Ivan Pejić, PhD and Assistant Professor Josip Juračak, PhD participated in the Regional Work Group (RWG) meeting at the Ss. Cyril and Methodius University Faculty of Agricultural Sciences and Food (Skopje, 27-29 March 2008)
- Professor Ivan Pejić, PhD and Renato Hernest, AAS took part in the Regional Work Group (RWG) meeting at the University of Montenegro Biotechnical Institute (Podgorica, 22-24 May 2008)
- The Local Work Group (LWG) met during the reporting period four times in order to carry out the activities specified under the project.

Basic Project Data:

Project Contractor: University Hohenheim

Project Coordinator: University of Zagreb Faculty of Agriculture

Other Project partners: J.J. Strossmayer University of Osijek Faculty of Agriculture; Agricultural University of Tirana Faculty of Agriculture; University of Belgrade Faculty of Agriculture; University of Novi Sad Faculty of Agriculture; Ss. Cyril and Methodius University Skopje Faculty of Agricultural Sciences and Food; University of Prishtina Faculty of Agriculture; University of Natural Resources and Applied Life Sciences – BOKU; Slovak University of Agriculture in Nitra; Hochschulrektorenkonferenz, Bonn; individual experts.

Project duration: 2 years

TEMPUS grant: EUR 297,340.00

Contribution of consortium members: EUR 28,279.00

### 9.6.5 Major International Projects the FAZ Applied for during the Reporting Period

#### FP7:

- FP7-ENERGY-2007-1-RTD/CSA-CA "Harmonisation of Biomass Resources Assessment Methodology in Romania, Bulgaria, Croatia and Serbia"; FAZ Coordinator: Silvio Košutić
- FP7-ENV-2007-1/CP-FP "Prototypical Policy Impacts on Multifunctional Activities in Rural Municipalities – PRIMA", FAZ Coordinator: Mario Njavro
- FP7-KBBE-2007-1-4-05 "Enlargement network - Agro-economic policy analysis of the accession and the candidate states and the Western Balkan countries - CEEC AGRICULTURE POLICY 2"; FAZ Coordinator: Marija Cerjak

## 9.7 International Exchange

During the reporting period the FAZ was a partner in two CEEPUS Networks: Agriculture and Environment in the 21<sup>st</sup> Century (CII-HU-0003-03-0708), coordinated by the Szent István University, Hungary, and For the Safe and Healthy Food and Environment in Middle-Europe (CII-HU-0023-02-0708) coordinated by the Corvinus University of Budapest, Hungary. Within these CEEPUS networks one FAZ student and two staff members visited partner universities, and FAZ hosted four foreign students and one professor.

In January 2008, the FAZ applied for participation in two CEEPUS Networks in the academic year 2008/2009. Both networks were evaluated as satisfactory, and the exchange will start early in October 2008: Agriculture and Environment in the 21<sup>st</sup> Century, coordinated by Szent István University, Hungary and For the Safe and Healthy Food and Environment in Middle Europe, coordinated by Corvinus University of Budapest, Hungary.

Based on the interuniversity agreement and academic exchange for 2007, Andrej Udovč, PhD from the Biotechnical Faculty, University of Ljubljana visited the Department of Agricultural Economics and Rural Sociology on 14-17 April 2008. During his visit, Andrej Udovč, PhD rendered a lecture on analysis of changes in agricultural and rural development policies in Croatia as a candidate for accession to the EU.

### 9.7.1 Program CEEPUS (Central European Exchange Program for University Studies)

### 9.7.2 Other Exchange Programs

## 9.8 Miscellaneous

During their visit to Croatia (4-10 June 2007), students from TECHOMAC – I'Ecole de l'Environnement et du Cadre de Vie, France visited the FAZ, and were given information about the study programs and FAZ activities. The visit was organized together with the J.J. Strossmayer University of Osijek Faculty of Agriculture and University of Zadar.

On 12 July 2007, the FAZ was visited by Hrvoje Meštrić, PhD, a coordinator of a program Unity through Knowledge Fund (UKF), and rendered the awareness raising lecture on a contest titled My First Scientific Research targeting young scientists.

On 22 November 2007, the FAZ was visited by Mrs Nada Matas-Runquist from Syndicat Mixte Tehnopole Alimentec, France. She presented information on Alimentec activities. Future cooperation on projects and through students' exchange was also discussed.

On 15 January 2008, a group of 90 students of SupAgro An International Center for Higher Education in Agriculture Sciences, Montpellier, France visited FAZ. Presentations and laboratory tours were organized to inform them about the study programs and FAZ activities. The visiting students also prepared a presentation of their institution.

Based on good cooperation between the international organization B.EN.A. (Balkan Environmental Association) and the FAZ, the FAZ hosted Professor Fokion Vosniakos, PhD, B.EN.A. President and Mariana Golumbeanu, B.EN.A. Secretary on 21-25 February 2008. IRO organized them meetings at the Ministry of Environmental Protection, Physical Planning and Construction, Croatian Business Council for Sustainable Development, the city of Zagreb, and Holcim and Philip Morris companies.

On 2 April 2008, the FAZ was visited by 50 students from the Agricultural School from Brehoulou, France. Presentations were prepared to inform them about the study programs, FAZ activities, Croatian agricultural sector, and the student organization IAAS.

Wiebke Wellbrock, a student of University of Wageningen, The Netherlands, stayed at the Department of Animal Science between 14 March and 9 May 2008. She carried out the research study and drafted her master's thesis under the tutorship of Professor Ina Ćurika, PhD.

**9.8.1**  
**Bilateral Agreement**

Successful collaboration between the University of Maribor Faculty of Agriculture, Slovenia and the University of Zagreb Faculty of Agriculture resulted in signing of a Cooperation Agreement on 20 March 2008.

## 10. Appendix

### Annual Report authors and collaborators

The authors of individual Report sections and contributors to particular sections and attachments are enlisted below.

- Author: Professor Edi Maletić, PhD, Dean for Scientific Affairs

Collaborators: Assistant Professor Željko Jukić, PhD, Vesna Karačić, BEc, Rubina Krajcar, LLB, Marija Ploj, Gordana Par, Silvija Vrdoljak, BEc.

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- Author: Assistant Professor Josip Juračak, PhD, Dean for Management

Collaborator: Nevenka Piria, BEc

**Section 2**
- Author: Assistant Professor Mihaela Britvec, PhD, Dean for Academic Affairs

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  - Professor Branka Aničić, PhD, Teaching Process Quality Monitoring Board
  - Professor Milan Poljak, PhD, FAZ coordinator for cooperation with Maribor Faculty of Agriculture
  - Assistant Professor Josip Juračak, PhD, TEMPUS Project Coordinator
  - Professor Ivan Pejić, PhD and Professor Mirjana Herak-Ćustić, PhD, Coordinator, Mediterranean Agriculture Study, Split
  - Marina Krvavica, MSc, Head, Professional Study in Karst Agriculture, Knin
  - Assistant Professor Dubravko Mačešić, PhD, Field Trips Coordinator
  - Vilka Gadže, Marica Lukić, Ljubica Pavelić, Marija Ploj, Renato Hernest

**Section 3**
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Collaborators: Assistant Professor Ramona Franić, PhD, Assistant Professor Željko Jukić, PhD, Vesna Karačić, BEc, Marija Ploj, Gordana Par, Lidija Peulić

**Section 4**

**Section 5** ■

Authors: Professor Zvonko Mustapić, PhD; Assistant Professor Dubravko Maćešić, PhD; Assistant Professor Bruno Novak, PhD; Assistant Professor Hrvoje Šarčević, PhD; Professor Ivan Kolak, PhD; Professor Ines Vršek, PhD; Aleksandar Brodski, BSc; Assistant Professor Boris Duralija, PhD; Professor Mladen Knežević, PhD, Stjepan Havrda, MSc and Professor Branka Aničić, PhD. Prepared by: Assistant Professor Ramona Franić, PhD.

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**Section 9** ■

Author: Professor Milan Mesić, PhD, Dean for International Relations, International Relations Office Head

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In addition to the above mentioned authors and collaborators, the Annual Report preparation was supported by numerous other members of the Faculty of Agriculture staff, secretaries and technical assistants at departments, and staff working at departments, CAL, experiment stations, laboratories, etc.

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## Scientific Research Projects (2007-2009) – Ministry of Science, Education and Sport

Project Leader	Project
Ines Vršek	Horticulture in education
Željko Vidaček	Impact of agriculture on soil and water pollution
Sandi Orlić	Functional analysis and molecular characterization of wine yeasts
Damir Kovačić	Stimuli presentation and methods for examining consumer preferences
Ivica Kisić	Agrotechnical measures aimed at improving quality of organic products
Marija Uremović	Preservation and evaluation of Black Slavonian pig breed
Ante Ivanković	Typing and inventarisation of genetic characteristics of cattle breeds in Croatia
Milan Pospišil	Evaluation and zoning of sugar beet cultivars in the Republic of Croatia
Zlatko Čmelik	Evaluation of sweet cherries and sour cherry Maraska in Mediterranean Croatia
Milan Šoškić	Molecular recognition of plant growth regulators
Zlatko Šatović	Biodiversity of medicinal and aromatic plant
Boris Duralija	Biodiversity of edible wild fruit populations in Croatia
Snježana Kereša	Micropropagation methods and introduction into horticulture of endemic irises
Tihomir Miličević	Chorology of pathogenic fungi on plants of special importance in Croatian flora
Stjepan Pliestić	Identification of the self-renewable processes biological materials
Mladen Knežević	Ecological acceptable organic fertilizers management in forage production
Dubravko Mačešić	Feeding potential of forage crops for wild life
Josip Leto	Evaluation of sustainable forage production systems in hilly-mountain regions
Alen Džidić	Genotypic and environmental effects on milkability and udder morphology in sheep
Marija Đikić	Phenotypic and genetic associations for carcass and tissues quality at pig
Ino Čurik	Strategies for elimination of genetic defects in selected populations
Boro Mioč	Meat qualities of Croatian sheep breeds
Vesna Pavić	Genetic and phenotypic traits of the autochthonous Croatian sheep breeds
Mihaela Britvec	Plant diversity and nutritive value of sheep pastures in the Adriatic region
Zvonimir Ostojić	Integrated weed control in sustainable arable crop production
Darko Grbeša	Nutritional, antioxidative and prebiotic attribute of corn for domestic animals
Boris Varga	Sustainable field crops production systems
Milan Poljak	Integrated potato growth on acid soils of Croatia
Snježana Bolarić	Genetic variability of red clover and tolerance to abiotic stress
Jerko Gunjača	Improving research efficiency by using advanced biometrical models
Vinko Kozumplik	Recurrent selection of maize synthetic for N use efficiency and ASR resistance
Marijana Barić	Development of wheat ( <i>Triticum aestivum</i> L.) germplasm resistant to drought conditions
Hrvoje Šarčević	Nitrogen use efficiency and bread making quality in wheat
Sanja Sikora	Beneficial microbial associations in sustainable legume production
Ferdo Bašić	Conservation management of soils exposed to water erosion
Milan Mesić	Nitrogen fertilization acceptable for environment
Matko Bogunović	Soil acidification and dehumification in agroecosystems of continental Croatia
Stjepan Husnjak	Correlation of Croatian soils with World reference base for soil resources
Tajana Krička	Sanation of technological by-products from biodiesel production into energy
Stjepan Mužić	Rapeseed oil cake in nutrition of layers, turkeys and geese
Ivan Jurić	History of agriculture – contributions to the history of Croatian economic history
Ivan Pejić	Genetic fingerprinting and genetic variability of grape and fruit cultivars
Bogdan Cvjetković	The identification of phytopathogens by Molecular and other methods
Edi Maletić	Intravarietal heterogeneity of vine germplasm and improvement of clonal selection
Lepomir Čoga	Soil reaction effect on heavy metals dynamics in the soil-water-grapevine system
Tomislav Ćosić	Role of organic fertilizers in grapevine nutrition
Mirjana Herak Ćustić	Controlled grapevine nutrition, vineyard sites and wine quality
Stanka Herjavec	Untypical aging off-flavor in wine
Silvio Košutić	Ecological, economical and energetic effects of reduced tillage in arable farming
Stjepan Sito	The use of pruning residues from orchards and vineyards as a fruit-drying fuel
Renata Bažok	Risk estimation system – the basis for integrated control of corn pests
Jasminka Igrc Barčić	The spatial distribution of economically important pests with the use of GIS
Josip Barčić	Ecologically acceptable strawberry pests control
Božena Barić	Integrated measures for protection against apple pests
Milan Maceljški	Integrated control of pests in rape for biodiesel production
Samir Kalit	Technological parameters of traditional cheesemaking for their protection

Project Leader	Project
Sulejman Redžepović	Microbiological quality control of autochthonous hard and soft sheep cheese
Dubravka Samaržija	Functional dairy products made of sheep milk
Jasmina Havranek	Ecological production and analytical methods for proofing cheese – authenticity
Nina Toth	Broccoli as a functional food
Josip Borošić	Fruit vegetable cultivar response to nutrient solution composition
Bruno Novak	Evaluation of sweetpotato and yam technologies
Nadica Dobričević	Nutritional value of fructiferous and subtropical vegetables
Nikola Kezić	Varoa tolerance of honey bee
Davor Romić	Soil salinization: identifying, processes and effects on crops
Ivan Šimunić	Effects of herbicides and fertilizers on water and soil quality in hydro-ameliorated areas
Marija Romić	Spatial variability of trace and toxic metals in agricultural soils of Croatia
Dragutin Petošić	Effects of agriculture on water pollution in the drinking water protected area
Ante Kolega	Traditional specialties as a function of farm income
Vjekoslav Par	Multicriteria analysis application for family farm business decision
Zoran Grgić	Enterprise model of estimation of family farms competition
Tito Žimbek	Structural adjustment of Croatian agriculture and rural area in the European Integrations
Ramona Franić	Development of the model for estimation of Government intervention in Croatian agriculture
Miroslav Tratnik	Co-operative organization and strengthening of competitiveness of family agriculture
Đurđica Žutinić	Socio-demographic reproduction of family farms
Ivica Aničić	Genetics, nutrition and introduction of new species in aquaculture
Tomislav Treer	Biological aspects in freshwater fisheries and game management
Branka Aničić	Mediterranean landscape as an identity factor of Croatia – its protection and development
Zlatko Svečnjak	Threshold for maize replanting
Stjepan Ivančan	Application of different drills for vegetable crops
Dragan Bubalo	Palynological characteristics of nectar and honey of sage ( <i>Salvia officinalis</i> )
Ana Pospšil	Production possibilities of alternative cereals in the Republic of Croatia
Jasminka Butorac	The effect of nitrogen on agronomic traits and quality of fiber flax cultivars
Dubravko Filipović	Possibilities of decreasing soil compaction by tractor wheels
Vitomir Grbavac	The place and role of informatics in developing modern agricultural system: case study of Croatia
Sonja Butula	Landscape Qualities Protection within the Rural Development Policy of Croatia
Tomislav Jemrić	Postharvest Treatments for Optimization of Peach and Nectarine Storage
Marija Bujan	Intermolecular interactions in food colloids and nanolevel control of properties
Nikola Pavičić	Biochemical and histological changes in the mandarin during storage period
Branko Liker	Probiotics and induced acidosis in prevention of post-parturient paresis in ruminants
Ivan Kolak	Croatian Bank of Plant Genes (CBPG)
Zvonimir Štafa	New technologies in pea and vetch production for the needs of animal production
Bernard Kozina	Potential of polyphenols in grape varieties

## Scientific Research Programs (2007-2009) - Ministry of Science, Education and Sport

Progam Leader	Progam
Ferdo Bašić	Sustainable land management and soil protection
Josip Borošić	Ecologically acceptable production of vegetables of higher nutritional value
Ino Čurik	Theory and application of quantitative methods in genetics of domestic animals
Mirjana Herak Čustić	Controlled grapevine nutrition, vineyard sites and wine quality
Jasminka Igrc Barčić	Integrated pest management in a system of sustainable agriculture
Mladen Knežević	Sustainable systems of forage management
Silvio Košutić	Energy, ecology and ergonomics in plant production and forestry
Vinko Kozumplik	Genetic study and improvement of agronomic traits of field crops
Jasmina Lukač-Havranek	Traditional production of sheep cheeses and yogurt in protection of rural regions
Boro Mioč	Standardization of Croatian sheep breeds and their products
Ivan Pejić	Preservation and revitalization of grape and fruit autochthonous cultivars
Davor Romić	Water and soil resources for sustained agriculture
Tomislav Treer	Freshwater ecosystems and fisheries
Boris Varga	Integrated production and end-use systems for field crops
Tito Žimbek	Croatian agriculture and rural area in the European integrations

## ARC - Projects\* - Projects of the Ministry of Agriculture, Fisheries and Rural Development

Project Leader	Project
Boro Mioč	Istrian sheep – lamb meat and cheese
Zoran Luković	Alternative pork production
Zvonimir Uremović	Application of Zeolites - Prerequisite of Ecologically Fattening Pigs
Vesna Židovec	Sweet violet ( <i>Viola odorata</i> L.) production
Vjekoslav Par	Olive grove irrigation cost efficiency
Zlatko Čmelik	Revitalization of plum production
Bogdan Cvjetković	Pomological features of some apple cultivars resistant to fire blight
Klara Barić	Weed control in some vegetable crops (onion, tomato, spinach) in direct seeding in field
Mirjana Herak Čustić	Grapevine nutrition – precondition of grape and wine quality
Sanja Sikora	The application of new biotechnology of alfalfa cultivation in Istria
Ivica Kisić	Tillage in organic agriculture
Ivan Turšić	Green paper production in drip irrigation system in Podravina
Stjepan Husnjak	Land information system of municipality Sopje
Mario Sraka	Soil water regime and nitrogen nutrition in vegetable crops production
Željko Vidaček	The influence of agriculture on water pollution by nitrates
Dinka Grubišić	Potato production despite quarantine nematodes

\* Agricultural Research Council Projects