

**European Association of Establishments for Veterinary Education**  
**European System of Evaluation of Veterinary Training**

**REPORT ON THE VISIT TO THE FACULTY OF  
VETERINARY MEDICINE OF PARMA, ITALY**

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**by the EXPERT GROUP**

***Prof. Maria Conceicao Peleteiro, Lisbon, Portugal, Chair***

*Visitor on Training in Basic Sciences*

***Prof. Riitta-Mari Tulamo, Helsinki, Finland***

*Visitor on Training in Clinical Sciences (Academic, Large Animals)*

***Prof. Gert W. Niebauer, Paris, France*** (substituting Einar Rudi for reason of health)

*Visitor on Training in Clinical Sciences (Small Animals)*

***Prof. Fernando Forcada, Zaragoza, Spain***

*Visitor on Training in Animal Production*

***Prof. Iva Steinhäuserová, Brno, Czech Republic***

*Visitor on Training in Food Safety*

***Antonio Galvao, Lisbon, Portugal*** (PhD Student)

*Student Member*

***Prof. Gert W. Niebauer***

*EAEVE Programme Coordinator*

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## INTRODUCTION

The Veterinary Faculty of the University of Parma has a longstanding history and tradition dating back to the later 18<sup>th</sup> century, the very time of foundation of the first veterinary schools in Europe. Its location in Parma – important cultural centre and surrounding territory of well known agricultural and economical importance - favours and influences many activities of the School. The production of the famous “Parmesan cheese” and the “prosciutto of Parma” not only shape the Faculty’s curriculum but this gastronomic and agricultural tradition is intimately linked to the origins and the history of the School. Today, the Faculty of rather modest size (~70 students/year) is one of 12 of the University of Parma and is located since 1973 on a campus on the periphery but within the city limits. There is no faculty teaching farm. The adequate facilities are progressively undergoing renovation with some important additions having been built recently (Veterinary Teaching Hospital, new lecture halls, Isolation unit).

The School was previously visited in 1992 with negative outcome. Since then, the Faculty has undergone major changes and has adapted to modern teaching and service requirements as well as to higher expectations in research.

Challenges the School faces today are common to many veterinary teaching institutions in Europe with some of the following issues accentuated on the National level: progressively increasing budget cuts, affecting research and academic staff structure; transition to a new but undoubtedly improved curriculum; a challenging and ever decreasing labour market, especially for small animal practitioners combined with female overrepresentation of incoming students; the rigidity of the administrator to recognise, among others, the role of junior researcher in teaching, the need for internationalisation and transparency in the search procedures for higher academic positions and the consequences of specialisation on the European level with Diplomates, Residents and Interns changing and challenging the academic employment structure. Some of these, non-exhaustively listed issues are being addressed in the Faculty’s objectives and strategic planning efforts.

## 1 OBJECTIVES & STRATEGY

*Questions to be covered:*

*1) Clear statement of objectives? yes*

*2) Do the objectives cover the total education programme adequately? See below*

*3) Is undergraduate education the primary reason for the existence and funding of the establishment? yes*

### 1.1 Findings

The objectives are clearly spelled out in the SER and are published on the home page. They are covering more than adequately the entire spectrum of education, services and research, with formation of competitive and omni-competent veterinary graduates being the main objective, achieved through a 5 year curriculum, which is aimed at fulfilling EU-EAEVE-FVE requirements. The School has built strong emphasis on quality assurance of food products typical for the region such as prosciutto and parmesan cheese. The faculty is a strong member of the very large and renowned University of Parma and is actively creating a high international profile through bilateral conventions, international Master programs, ERASMUS programs and research. Assessment of quality on different Faculty levels by committees and by different evaluation tools is university-wide continuously developed and is being a strong objective of the Faculty.

### 1.2 Comment

Although mechanisms to evaluate teaching and research performance are in place the outcomes of such quality control measures is either uncertain or inexistent. For example, student evaluations have no or little effect on the teachers involved. That is, negative evaluations do not necessarily effectuate improvements while excellence in teaching does not find appropriate recognition for promotion or additional remuneration.

### 1.3 Suggestions

The transition from quality assurance to mechanisms of quality management should be accelerated; that is for instance that teaching evaluations should result in teaching improvements through targeted didactic formations, through means of teaching awards and other tangible incentives.

Practical clinical teaching is the backbone of veterinary education; teaching time on the patient should be adequately recognised and teaching efforts in those areas should be valued and remunerated accordingly.

The concept of research-based teaching especially in the clinical areas needs to become a stronger overall objective; this can only be achieved by stronger support and validation of clinical (in-house) research.

## 2. ORGANISATION

*Questions to be covered:*

- 1) *Brief structure and organization summary*
- 2) *Does Faculty have adequate influence on University policy?*
- 3) *Is it suitably "autonomous" i.e. does it have adequate flexibility?*
- 4) *Effective structure for decision making?*
- 5) *Are Departments coordinated amongst themselves in terms of use of resources?*

### 2.1 Findings

The Faculty of Veterinary Medicine is one of the twelve faculties of the University of Parma. The organization is in detail outlined in the SER, chapter 2.

The university is headed by a Rector who serves a 4 year term; he is elected out of the group of full professors by the entire teaching staff and by a quota of 10% of the total coming from the technical staff and students. He nominates a Deputy Rector.

The other governing bodies are the Academic Senate, the Board of Governors, the Board of Auditors and the Administrative Director.

The Academic Senate represents the collective governing body, which plans the development of the University and co-ordinates teaching and research. This body defines the fundamental lines along which the University develops its teaching and research activities. The Academic Senate comprises the Rector, who shall act as its Chairperson; the Deputy Rector; the Faculty Deans; six Heads of Department belonging to different research groups, appointed by all members of the Department Board; three student representatives elected by all students, which are elected for two years and the Administrative Director.

The Board of Governors acts in line with the planning guidelines of the Senate, and is the body that deliberates and supervises the administrative, financial, budgetary management of the University, except for specific delegation to other teaching, service or research structures. It is composed of representatives of the academic staff and representatives of external organizations and institutions. It is in charge of general administration, financial affairs and property management.

The Board of Governors is elected for four years (except for the students that are elected for two years) and comprises the Rector, who shall act as its Chairperson; the Deputy Rector; the Administrative Director; four representatives of the full tenured professors; four representatives from the associate professors; four representatives from the researchers<sup>1</sup> and assistant lecturers; three representatives from the Support Staff – administrative area; three representatives from the Support Staff– technical area; four student representatives, elected by all students; the Mayor of Parma or one of his/her permanent delegates; the President of the Province or one of his/her permanent delegates; one representative of the Ministry of Instruction, University and Research, appointed by the Minister; one representative of the Emilia-Romagna Region, appointed by its President.

The Board of Auditors is an internal body of the University, comprises five members chosen from the List of Chartered Auditors, with proven experience in administration or accounting or legal or university regulation management.

The Administrative Director supervises the administrative and accounting services. He/she is appointed by the Rector in consultation with the Board of Governors.

The University of Parma also has various bodies such as:

the Heads of PhD Schools' Council; the Heads of Medical Specialization Schools' Council; the Scientific Committee of the University of Parma; the Teaching Committees of the University of Parma; the Council for administrative and technical staff; the Students' Council; the University Evaluation Unit; the Equal Opportunities Committee; the Legal Affairs Office; the University Sports Committee; the University Veterinary Service; the Animal Ethical Committee.

The Faculty is headed by the Dean that is elected for four academic years from among full-time full Professors and is appointed by Rectoral Decree. He/she cannot be re-elected more than once consecutively. Those entitled to vote for the election of the Dean are: all the members of the Faculty Board, including researchers of the Faculty who are not members of the Faculty Board.

The Dean designates a Vice-Dean from among Full-time full professors, who may substitute him/her in all his/her offices whenever he/she cannot be present.

The bodies of the FVM are:

- the Faculty Board; the Degree Course Board (DCB); the Joint Committee for Education (JCE); the Pedagogical/Educational Committee (PEC). the Dean's Board; the Departments

The Faculty Board is composed by the Dean, all the Full Professors, Associate Professors and researchers, the Administration Secretary and nine students' representatives. The Faculty Board coordinates and decides all Faculty activities and verifies their efficiency. It also plans and coordinates spending of funds allocated for teaching, in consultation with the relevant Degree Course Boards and with the Department Boards.

The Degree Course Boards (DCB) includes all Professors (Full and Associate) and Assistant professors teaching in the Course and five student representatives. The Head of DCB is elected for four years by the Board from among all tenured professors of the Faculty teaching an official subject.

The Joint Committee for Education (JCE) assesses the quality, the effectiveness and eventually expresses further proposals to achieve the educational objectives.

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<sup>1</sup> Researchers in this chapter must be understood as “ricercatore” that is the first level of the career as teaching staff – equivalent to “Assistant Professor”.

The Pedagogical/Educational Committee (PEC) elaborates the program of the single courses, plans the ECTS distribution/course and assigns ECTS for each degree course. The PEC also identifies adequate teaching methodologies for the achievement of the educational objectives and plans the proposed teaching activity of student elective courses. It develops and up-dates the instruments (e.g. Portfolio) which ascertain the achievement of skills as regards to knowledge and learning.

The Dean's Board is composed by the Dean, the Vice-Dean, and the Heads of Boards of the other teaching structures. Possible participation of the representatives of the Specialization Courses is regulated by the Faculty Organization Rules.

The faculty is organized in 2 departments: Department of Animal Health and Department of Animal Production, Veterinary Biotechnologies, Food Quality and Safety.

Each department is headed by a Director who is elected by the Department Council (DC) out of the group of full professors. The DC is formed of the entire permanent academic teaching staff (full and associate professors and researchers), a number of support staff representatives in proportion of 10% of the professors and 1 member representing the group of doctoral and postdoctoral students.

The FMV holds the following committees:

- the Faculty Committee;
- the Committee for the preparation of the EAEVE visit;
- the Erasmus-Socrates Commission (LLP/ERASMUS programs);
- the Postgraduate Education Commission;
- the Continuing Education Commission (Specialization Schools);
- the Commission for Internationalization;
- the Commission for the Relations with the local territory;
- the Tutorage Commission;
- the professional training "TIROCINIO" Commission;
- the Commission for the evaluation of facilities for extramural activity;
- the Commission for 1st year entrance examination for the degree course in Veterinary Medicine;
- the Commission for Italian language for foreign students;
- the Commission for Student's Career, 1st year;
- the Commission for Student's Career, 2nd-5th year.

## **2.2 Comments**

The present structure of the FMV is simple and good relationship exists of the Dean and the departments and between the two departments. It is possible that the fusion of these departments may occur in the near future due to legal restrictions, as each department must have a minimum number of professors.

This fusion although seen with concern may solve some present problems due to the fusion of the old institutes, such as having Food Inspection and Food Hygiene in separate Departments.

## **2.3 Suggestions**

The number of committees of the FMV seems excessive. We recommend to evaluating their well functioning and that their roles are well established with no ill defined limits of action.

The group of PhD's and post-doc's has no formal organization. Such organized structure would be useful for better recognition of their rights and concerns.

### 3 FINANCES

*Questions to be covered:*

- 1) *Short summary of financial and budgetary structure and who controls it?*
- 2) *Any additional income generated?*
- 3) *Is level of funding adequate?*
- 4) *Is there a good balance between capital spends and running costs?*
- 5) *Is there a good balance between research and teaching funding?*
- 6) *How much autonomy to allocate budget?*

The Faculty receives the majority of its funding from the government. Running costs and teaching funds, calculated on the number of students enrolled in the Faculty, are channelled through the University; those funds are then allocated through the Dean's office. Almost all salaries for employees on payroll (that is, except for a few positions created by external funding) are directly paid to individuals by the MIUR as employer (by law salaries shall not exceed 90% of overall government funding).

Funds generated through services (clinics, laboratories), research and external sponsors are partially returned to the Departments and administered largely in autonomy. Departments may pay a percentage of generated income to those staff members who contributed to the income.

The number of students is the main parameter for Faculty funding. Student tuition fees are calculated in relation to family income. Government funding is generally insufficient to allow investment in equipment and personnel, necessary to keep up with increasing demands in teaching and in standards of service. Therefore, out of necessity, the Faculty is quite engaged and successful in generating external funding. Through these means, capital equipment has been acquired and/or replaced, an emergency service and a mobile clinic have been established and some technical staff has been employed. External funds are subject to a modest overhead fee.

#### 3.2 Comments

During the next 2 years, significant cuts in government funding, based on general austerity measures, are anticipated. To partly compensate, it is anticipated that tuition fees may be increased up to €500 for the highest tuition tranche. Personnel cuts will be one of the unavoidable sequels and replacement of some retiring teachers will not be assured. An employment freeze for government positions has been already announced. Consequently, adequate teaching and service standards can only be maintained by an increase in external funding.

But spending more time and effort on external fund-raising may have implications for research and teaching and this problem may be exacerbated by the fact that the new curriculum requires increased practical hands-on teaching and is therefore increasingly expensive and time consuming. Moreover, excellence in teaching is not rewarded by the University, specialist status (Diplomate) attracts no financial incentive and residents or interns cannot be employed on any university budget as these positions are not officially recognised.

#### 3.3 Suggestions

The main parameter for allocation of funds by the government should be the number of students *graduating* each year and not the number of students enrolled. To compensate for the reduction in funding this would cause, other factors should be used to determine fund allocation, such as research output and quantity and quality of teaching. Teaching excellence and specialisation should be recognised both for financial reward and eligibility for promotion; if financial reward is not possible by law, a system of prizes or one-off awards for excellence

in teaching could be introduced. The Quality Control system already in place in terms of student evaluation of teachers, should allow identification of such merits.

As students are allowed to repeat exams indefinitely, some “off course” students stay enrolled long-term without graduating; in response to this problem, a system should be explored in which tuition fees increase progressively commensurate with overly long and unsuccessful study time.

Positions for residents and interns should be created and financed. An austerity plan should be elaborated at the University level, taking the anticipated budget cuts into account. Time and effort for successful external fund generation should be specifically recognised. The University and the government should be reminded that quality veterinary training is the most expensive of all academic studies (approx. €20.000 per student/year).

The government imposed and generalised freeze of recruitment on the professorial level and replacement of retiring staff is unacceptable in certain areas: that is for instance in equine surgery, where replacement of two retired senior teachers by at least one qualified teacher-clinician is mandatory for maintaining adequate teaching levels and for providing minimum service standards in this area.

## **4 CURRICULUM**

### **4.1 GENERAL ASPECTS**

*Questions to be covered:*

- 1) Seems as in SER or indicate variances?*
- 2) Curriculum fixed by law or otherwise?*
- 3) Important to verify clinical training figure in SER corresponds to supervised intensive hands-on clinical training in small groups. Note: extramural vacation work or large group demonstrations should not be included as clinical work.*
- 4) Curriculum balance and coverage OK?*
- 5) Comment on practical : theory ratio*
- 6) Ratio of clinical work : lectures and practical work must be checked with SOP*
- 7) Ratio of theory : practical and clinical work must be checked with SOP*
- 8) Comment on courses integration, electives & extramural work arrangements*

#### **4.1.1 - Findings**

In Italy, by ministerial decree, the curriculum of the veterinary schools has been changed in 2009. This new curriculum hereafter designated NC-2009, is being taught at the time of the EAEVE visit in the first and second years, and the old curriculum, designated hereafter OC-2001, is being taught in the 3rd, 4th and 5th years, making it difficult to assess the advantages and drawbacks brought by the changes introduced.

Information has been given of both curricula in the SER and its annexes.

The organization of veterinary medicine courses, in the whole of the Italian schools is complex. It comprises a common core of compulsory subjects taught in a formal way from semesters 1 to 9; a training in pre-professional subjects (ORIENTAMENTO), from the first year onwards, taking place during two or three weeks in the summer; a final 10th semester of TIROCINIO, lasting 24 weeks, where only practical training takes place and a group of elective subjects that have a compulsory common core of 32 hours on professional knowledge (8th semester) and 32 hours of real elective disciplines (Corso Integrato Professionalizzante) taught during the 9th semester, with six different possible choices. Finally, all students have to perform a thesis on a subject of their choice, discussed before a jury or Commissione.



The numbers of hours of contact students have with each subject, either EU-Listed or not, is hard to apprehend because in some circumstances it exceeds what would be expected in formal teaching during the 15 weeks of a full semester.

Main changes introduced by the NC-2009 were:

1. ECTS amounts for 300 ECTS in five years and each ECTS amounts for 25 teaching hours and individual work. The FVMP has established that individual work varies from 17/25 (basic subjects) to 0/25 (practical training).
2. The weight of Basic Subjects lectures has decreased from 185 to 140 hours.
3. The weight of Basic Sciences has only slightly diminished, especially in Anatomy, going from 226 to 196 lectures, but has increased in Physiology from 159 to 180.
4. The weight of Clinical Sciences has expressively increased in the clinical training from 573 to 1211 hours.
5. Semesters changed from 13 to 15 weeks (The addition of 2/3 weeks is due to the new "ORIENTAMENTO" that is carried out in the summer).
6. Compulsory part of professional subjects of the Electives goes from 16 to 32 hours.
7. Pre-professional Internships (ORIENTAMENTO) were introduced as compulsory practicals that every student has to carry out as both intramural and extramural training during 10 weeks in the summer vacations.
8. The TIROCINIO in the new curriculum lasts 24 weeks and comprises 30 ECTS.
9. For the ORIENTAMENTO a Portfolio was created that must be fulfilled during the activities that take place from the 1st to the 9th semesters. In this Portfolio the activities are pre-registered and the student and teacher must assure that they were accomplished.
10. For the TIROCINIO the register of the practical activities performed is made in a Libretto Diario where each case accompanied must be registered by the student and certified by the professor.
11. Extramural work has increased from 4,13 to 9,79% of the curriculum hours.
12. The final thesis cannot exceed 9 ECTS distributed along the course. Two ECTS in the 3rd year, three in the 4th and four after the final discussion at the end of the course.

Each year, the Pedagogical/Educational Committee (PEC), together Joint Committee for Education (JCE), propose which teaching modules will be activated in the following academic year (this is usually done in May or June). As the faculty is currently in a transition period from the OC-2001 to the NC-2009, there has recently been some variation in the number of hours dedicated to specific scientific disciplines (for example: additional hours allocated to several disciplines within the pre-professional internship "ORIENTAMENTO"). However, generally the Faculty Board approves the proposals without any significant degree of variation.

The Faculty is free to organize 96 ECTS of the curriculum. This has been used to increase the practical teaching in detriment of theoretical teaching.

Curriculum balance and coverage seem to be correct with all areas considered in the EU listed subjects.

The number of hours of self directed learning presented in the SER is extremely high – 2890 hours. However, this number has been calculated as a percentage of the credits of the

course and does not correspond to an accurate assessment. Students seem to have a heavy timetable with little time available for individual work.

Although there is a choice for six different elective subjects, these only account for a very small percentage of the total training (32/4353) – 0,7%.

Extramural work has only been considered for the first and second years, corresponding to the “orientamento” introduced by the new curriculum. This extramural work takes place in the Municipal Shelter and in a Dairy Farm with 25 and 38 hours respectively. It is estimated that it will increase in the future as the “orientamento” is followed by the students in the coming years.

At present, as the new curriculum is not yet in practice for the third, fourth and fifth years, the TIROCINIO lasts 24 weeks, 6 weeks for each the following 4 subjects (2 clinical and 2 non-clinical) as follows: 1. Internal Medicine, Prophylaxis and Avian Pathology; 2. Surgery and Obstetrics; 3. Food Hygiene and Public Health; 4. Animal Production

The ratios calculated see attached ratio sheet (Annex 2)

#### 4.1.2 – Comments

In spite of the difficulty in evaluating many variables, especially due the change in curriculum, there seems to be a good integration of all types of teaching arrangements.

The students have little time to devote to individual studies, which is a reflex of the heavy occupation in frontal lectures.

It is expected that the new changes in the curriculum will bring better opportunities for practical and extramural teaching.

For most subjects the ratio theoretical/supervised practical training (R6) although better than in the old curriculum, is highly above the range considered in SOP.

The ratio clinical work/laboratory and desk based work (R7) is slightly under the range considering what is expected to exist based on the changes introduced by the new curriculum. In the OC-2001 the ratio was highly unsatisfactory.

#### 4.1.3 – Suggestions

It is suggested that new learning alternatives are considered, such as self oriented learning, with hypothesis for the students to prepare for lectures themselves under the teacher's orientation.

Care must be taken to the ratios that are out of the range considered desirable such as the theoretical/supervised practical training (R6).

## 4.2 BASIC SUBJECTS & SCIENCES

*Questions to be covered:*

- 1) *Do basic subjects form part of the internal curriculum or are they taught elsewhere?*
- 2) *How are carcasses handled for anatomy and pathology with relation to chilling/freezing, hoists, trolleys, changing facilities and disposal?*
- 3) *Do incoming students have adequate basic knowledge?*
- 4) *Are items taught in basic sciences brought into relation to later courses?*
- 5) *Adequacy of hours and course materials as well as balance between practical and theoretical work?*
- 6) *Is there adequate hands-on participation by students in anatomy and pathology?*
- 7) *Are the groups too large?*

Basic Subjects are taught in the Faculty during the first year of the course. Animal Biology is taught in Histology, Embryology and Zoology and Embryology within Anatomy.

Students admitted through the national system regulated by the MiUR have fulfilled the same basic secondary studies. However, their preparation is considered variable, as they come from schools with different backgrounds.

For students that have obtained a low score in topics considered essential in the admission exam (Biology, Physics, Chemistry and Mathematics) the FVM provides extra teaching activities during the first year of the course to correct those deficiencies. This program seems to be satisfactory with high levels of success.

All subjects considered as Basic Sciences in the EU-list are taught in the first and second years of the course and Pharmacology and Toxicology in the first semester of the third year.

With the new curriculum some basic subjects or sciences have seen their number of hours reduced, whereas in others the hours devoted to theoretical lectures have been allocated to practical teaching (ex: Anatomy ). For most Basic Sciences the theory/practical ratio is very high (2,2/1). In Basic Subjects laboratory and desk based work is only admitted for Chemistry, and even here it is limited to 10 hours.

Practicals in some subjects are performed with large numbers of students at the time, being difficult to estimate how much is in fact learned in such conditions. An example are some of the practicals of Physiology when 60 students are accompanied by two professors to a farm to perform tasks that involved twenty students at a time in tasks as critical as blood sampling or auscultation of the rumen.

The theoretical load in some disciplines is very high. Examples of this are Pathology, including General Pathology and Anatomic Pathology with 216 hours of lectures. The introduction of some subjects such as cell culture pathology explains why the number of teaching hours is so high.

Teaching staff of Basic Subjects and Sciences seems to be very motivated and well prepared. It was clear that all teachers make the best they can out of the teaching material of animal origin available, which, in some cases, referring to the standards of the approved schools in Europe, has been judged by the Team as still insufficient. As will be stated in more detail in chapter 7, cadavers for use in Anatomy and Anatomical Pathology are scarce, especially equine and companion animals.

#### **4.2.2 – Comments and suggestions**

As far as Basic Sciences are concerned attention should be paid to the theoretical teaching load versus the number of practicals. Groups of students in practicals that involve the acquisition of delicate skills should be as small as possible.

It is suggested that the scientific and teaching committees of the Faculty look at the programs of Basic Sciences and select the subjects that really add competences for veterinary graduates, in order to reduce the still heavy load of theoretical teaching in some disciplines..

### **4.3. ANIMAL PRODUCTION**

*Questions to be covered:*

- 1) Is there a working farm where students can do practical work on animal production?*
- 2) Is there any early exposure to handling of farm animals for city students?*
- 3) Are there sufficient hours of teaching in animal production and is there a good balance between practical and theory?*
- 4) Is agronomy taught and where (silage production, pasture management and use of particular feeds/plants etc.?)*

- 5) Is animal production teaching well integrated with related subjects i.e. herd-health management and ailments caused by poor or in-balanced nutrition?*
- 6) Does the teaching of forensic and state veterinary medicine cover the principles of certification with regard to animal transportation?*

#### **4.3.1. Findings**

Concerning the Animal Production field, the main products in the surroundings of Parma are the cheese from cow's milk and the cured ham from pigs. Therefore, it sounds logical that the Faculty of Veterinary Medicine of Parma can offer a very good training in both species, of course taking also into account the other main farm animals (poultry, small ruminants, rabbits and even fish)

Animal Production subjects represent 11% in the 5th year course (Directive 2005/36/EC) of the core curriculum. This percentage was higher (16%) in the old curriculum (2001).

There are six elective courses offered during the 5th year, and only one of them belongs to the animal Production field: Animal Production and Breeding Techniques.

There is not a teaching farm in the Faculty. Therefore, students have to go to commercial farms in the surroundings for practical training in Animal Production

#### **4.3.2. Comments**

It seems that the core curriculum of the FVMUP fulfill the requirements and subjects considered in the Directive 2005/36/EC in the Animal Production field, although the number of hours for lectures and practical training are very limited, and some imbalance among species should be solved.

Agronomy is very well covered through two subjects: Plant Biology (semester 2) and Feeding and Feed techniques (semester 5). The lectures of the later can be found by the students in internet, and both silage and hay production are considered. Animal welfare is covered in the subject "Special Zootechnics", but animal ethology is taught in Physiology.

The subject "Special Zootechnics" is taught during the semester 4, and "Feeding and Feed Techniques" during the semester 5. In my opinion, Nutrition should have been offered before the study of the breeding systems, which are very closely related to the feeding system and the use of natural resources.

Concerning elective courses during the 9th semester, 6 subjects are offered and the students have to choose one of them. Two (Animal Production and Breeding Techniques and Health Management of Food-producing Animals) of the 6 subjects are related to the Animal Production field

In the core curriculum and according to the figures from table 4.2.a1 to 4.2.a5 (pages 66 to 70 of the SER), the balance between practical teaching (90 hours) and lectures (360 hours) in the Animal Production field is poor, and practical training only represents the 20% (32% in the old curriculum of 2001). Moreover, during the "Orientamento" (preprofessional internship during the summers after the 2nd, 3rd and 4th years) only 25 of 375 hours are dedicated to the Animal Production field (stage in a dairy cattle farm). Practical training in the Animal Production area for under-graduate students takes place in the laboratory of Animal Nutrition, in the clinic of large animals and visiting the farms surrounding the Faculty.

Concerning the "Tirocinio" (professional training during the 5th year), there are 6 available subjects (125 hours each), and it seems that only one is related to Animal Production, mainly dedicated to cattle, pigs and poultry.

Animal Production staff seems to be quite motivated, and the teaching of the different subjects seems to be well organized. There is a good cooperation for practical training between the Department of Animal Production and some teaching units of the Department of Animal Health, mainly for cows. The laboratory of Animal Nutrition is well equipped either for practical training and research, and it is accredited for raw materials analysis; moreover, this laboratory is very well connected with milk/cheese commercial factories.

#### 4.3.3. Suggestions

The Faculty should seriously consider creating a teaching/experimental farm as close as possible of the Faculty area. Such facility is always associated with an improvement of the teaching quality in both Animal Production and Animal Health. Also the teaching integration of subjects of both areas could be also increased. Likewise, the research activity would be revitalized. If this suggestion couldn't be accomplished, an extension of the area-clinics for farm animals should be considered, especially to make possible the early exposition of students to pigs and ewes and therefore to accomplish the requirements of day-one skill in those species.

The teaching on pig production should be improved and an earlier exposition of students to pigs should be considered. An additional elective subject could be very useful to help the students interested in pigs. Practical teaching in pigs would be necessary during the "Orientamento".

More teaching in small ruminants and even in rabbits, both species well established in Italy, should be considered during the "Tirocinio".

Practical training in semen collection and preservation of the Animal Reproduction Service is mainly focused on equines. Taken into account the significance of cattle and pigs in the surroundings of Parma, practical training in the latter species and sheep should be also offered in the Faculty, because in farms teaching focus is mainly on insemination procedures.

## 4.4 CLINICAL SCIENCES

*Questions to be covered:*

- 1) Does the establishment operate an emergency veterinary service in which students participate and is the latter compulsory or voluntary?*
- 2) Does the establishment operate a mobile clinic and how do students participate in the activities?*
- 3) Are students covered by liability insurance during extramural work?*
- 4) Are allocated hours adequate and in balance with the curriculum?*
- 5) Are disciplines integrated and well coordinated? Is there a satisfactory balance between species?*
- 6) Is each student getting adequate hands-on clinical teaching?*
- 7) Brief comment on adequacy of facilities, environment, organization, caseload, necropsy case load, staff and support staff?*
- 8) Are adequate opportunities offered for each student to handle parturitions, dystocias, displaced abomasums, traumatic reticulitis, milk fever, acetonaemia?*
- 9) Would all students be able to perform an ovaro-hysterectomy on a cat alone?*

#### 4.4.1 Findings and 4.4.2 Comments

A 24/7 Emergency Service for companion animals has been established in January 2011 (that is one week prior to the visit) and students serve there during their 'TIROCINIO' from 8.00 am till 8.30 am next morning. It is active 49 weeks per year – and there are 3 weeks, by government rule, that the service is closed during vacation periods (Christmas 2 weeks and 1 week in August). The full functionality of the service has been verified by the team, but it is

too early to evaluate its impact on teaching and case load and the level it will be functioning on.

The Mobile Clinic also has only been established in January 2011, just prior to the visit. It is therefore, too early to evaluate the case numbers and the degree of activity. Assessment of how it is functioning is premature. Students are scheduled to participate 3 x 25 hours =75 hours and this is mandatory. Time allocated is sufficient if caseload can be verified in the next future.

Students are covered by insurance during this extramural teaching time, so are the practitioners who are acting as contract professors – because they sign an agreement with the University.

Verification of clinical training IN FULL is somewhat difficult to ascertain. Student Portfolio (Day-1 skills-book) is new since only last autumn, and so is the Contract professor's log book, where he/she verifies the cases handled and the student involved. Nevertheless the written documentation set-up seems appropriate from both sides, the teachers and the students.

The general allocated hours seem balanced in clinical sciences. However, the training time in clinical hands-on work is astonishingly small in some fields e.g. in diagnostic imaging. Allocation of ONE week in the Tirocinio for diagnostic imaging, shared between ultrasound and X-ray is very low and we wonder how all the teaching can be done in such a short time.

SMALL ANIMAL caseload is currently about 2600-3000 cases per year. However, most cases are referrals rather than first opinion cases for e.g. more complicated surgery or diagnostic expertise sent in by surrounding practitioners.

Caseload in HORSES is very limited at present also due to the economic recession we were being told, – both in polyclinic and also in-patients. There is a major concern since students are not sufficiently exposed to the routine equine cases such as lameness, colic and respiratory cases as well as basic surgery e.g. castrations.

Reproduction (mares, stallions) seems to be the major equine field taught at present to a sufficient extent, though, also this area suffers from a decreased caseload as compared with previous years.

Most of equine teaching (except reproduction) occurs outside the faculty in extramural training by contracted practitioners as well as to some degree by mobile/ambulatory clinic service. Principles of diagnostic work-up and measures, differential diagnoses and treatment options – and the evaluation of this is – again – too early to assess due to the short time it has been implemented.

It is still unclear if the students in extramural rotations are able to do proper rectal examinations in horses and assist in diagnostic procedures and first aid measures for instance for colic, passing a stomach tube, assessing dehydration status and to institute and monitor fluid therapy etc. AMBULATORY practise and for example wound treatment and acute trauma cases in horses, all this needs later evaluation. Also, the Faculty has only a very limited number of horses on-site for propaedeutic teaching.

There are only 12 permanent professors working in VTH, 13 hospital veterinarians (they should not be called “residents”), 9 technicians and one administrative person. Therefore, it seems that there is NOT enough teaching staff in the VTH and some teachers especially in clinics work on temporary assignments (PhD students, hospital veterinarians and contract professors). In Surgery, for instance, 2 senior full professors retired recently and were not replaced. The third full professor, specialist in equine surgery, was unable to teach or perform surgery services for the entire year 2010, because of a health related leave of absence. This is the very reason for the relative lack of sufficient intramural caseload in

equine surgery. The faculty made however every effort to compensate by extramural teaching and employing practitioners acting as contract professors, operating horses intramurally as well as extramurally with active involvement of students some times on a one by one basis. The professorship of equine medicine is also missing?

The new system has started very recently, contract professors in the last year and hospital veterinarians running emergency service only since January 2011. There is no real experience of these new arrangements and how they are working which is very difficult therefore also to evaluate in such a short time.

There are a very limited number of small animal cases that are treated as in-patients (overnight or longer in hospital). Therefore, it is of a major concern that more difficult surgical and medical cases are being treated on an outpatient basis with the consequence that the students do not see intensive care or recovery management of cases and effects over time of treatments in general. The number of in-hospital patients should be increased in order to get students more involved and experienced in case management. This situation has been (few days prior to the visit) attempted to be corrected by introducing a now functioning intensive care unit and by having ES staff and students supervising hospitalised small animal patients.

There is a state-of-the-art municipal kennel attached to the hospital operating closely with the school and employs 2 veterinarians contracted for teaching. The kennel houses approximately 160 dogs and 50 cats. This is an excellent opportunity for students to gain hands-on practice experience. For small animal surgery teaching, the spaying practice of those stray animals is excellent and gives students opportunity to learn castrations and ovariectomies performed sufficiently often. However, it is unfortunate that the law prohibits students to perform surgeries themselves during Tirocinio – therefore they are actually practising their first own cases only after graduation. Supervised surgical training with students performing some simple surgeries themselves is strongly encouraged (supervisor is assisting the student, not vice versa).

Some fields on the other hand are operating in a very high level – like neurosurgery/neurophysiology – this is of course related to the person in charge and his interests – and hopefully this area is reserved mainly for PhD students – however, students should be able to perform a basic neurological examination and identify the location of a lesion.

In CATTLE, the new system of housing new cattle for 1 week in groups of 6-8 each to be examined and used as clinical training material for students is really appreciated as excellent way of getting teaching material to students and hands-on training with various different aspects. The only part missing is the bovine surgery e.g. dislocated abomasum surgery etc. which are being performed by practitioners with students outside the faculty. Also, bovine podiatry is taught to students during extramural rotations with contract professors, specialized in bovine claw diseases. The persistence, standards and stability of this kind of new teaching arrangement need also to be evaluated in the coming years.

Food animal practice management: There are several farms that are being used for teaching reproduction to students. Professor goes regularly to these farms and makes pregnancy diagnoses himself, with ONE student at the time. In farms there are also several parturitions happening daily – so in case of dystocias students can learn. Professor of internal medicine also makes visits regularly to pig farms to teach students.

Several practitioners of different clinical specialties (podiatry + claw diseases, bovine practice, porcine practice, equine podiatry and shoeing, official state veterinarian of ASL etc) are now working in collaboration with faculty and teaching students during their extramural rotation. Usually student spends 1 week out with practitioner/contract professor and cases handled / case numbers seen vary depending on the type of practice and discipline. As the



whole system is new it is still too early to be convinced that adequate exposure and learning is fulfilled.

Ambulatory service has just been established (a new well equipped van arrived finally) and therefore the experience of the full function and its evaluation is lacking.

New services such as emergency, hospitalisation, intensive care, ambulatory clinic need to be announced and advertised to the public letting also practitioners know that these services now exist and can be effectively used and referred to.

#### 4.4.3 Suggestions

We recommend to progressively transition from a discipline-oriented organisation (teaching) into a species-oriented organisation to enhance specialisation, clinical services and teaching.

Establishing Residency training programmes by giving preference to College Diplomates in recruiting should become first priority in all companion animal clinics including equine.

A formal rotating internship programme should be instituted in each the small and the large animal clinics.

**Although the faculty has recognised the flaws of clinical services and of teaching in those areas (as described in “Findings”: Emergency service, hospitalisation service, case loads in equine medicine&surgery and recovery, ambulatory clinic) and although all elements are now in place to rectify those deficits, all corrective actions have been instituted so shortly, that is too shortly, before the visit that the team is unable to evaluate effectiveness, contingency and continuity of those actions. We therefore believe that this constitutes and should be considered at the present time as one major deficiency consistent with the suggestion of a category 1 deficiency. We also believe that within a reasonable amount of time case numbers and effects of rectifying actions (already in place) will have reached or exceeded required standards.**

#### 4.5. FOOD HYGIENE AND TECHNOLOGY AND VETERINARY PUBLIC HEALTH

*Questions to be covered:*

- 1) *Briefly comment on structure of practical training i.e. practicals, slaughterhouse, processing plants etc.*
- 2) *How is food hygiene course linked to animal production, pathology, pharmacology& toxicology incl. residues and withdrawal times and parasitology?*
- 3) *Is training mostly internal on-site or external?*
- 4) *How is inspection experience in milk, cheese, fish, meat, poultry offered?*
- 5) *Do all students have training in the slaughterhouse?*

##### 4.5.1. Findings

There are 368 lessons (almost 9%) of the total number of lessons devoted to the training of the Food Hygiene and Public Health. The total number of staff ensuring the Food Hygiene and Public Health is 19 people including 2 professors, 1 associate professor, 4 research workers, 7 PhD students and fellow-researchers and 5 technicians. Unfortunately this unit is split into two departments (the Animal Health and Animal Production Department).

Practical training is centralised partly in the “ORIENTAMENTO” pre-professional internship and mainly in TIROCINIO professional training. These two types of training are focused mainly on practical extramural activities. The food hygiene, technology and veterinary public health is dealt with during the third to fifth year of study.

“ORIENTAMENTO pre-professional training” covers a period of 13 weeks during which period, each student has to perform a minimum of 2 weeks supervised practical training. .



According to the “new curriculum” the number of lessons of the food hygiene was increased but on the other hand the number of practical teaching hours within the TIROCINIO decreased (almost by 30% - from 188 to 125 teaching hours). The main practical training concerning the food hygiene is concentrated in the fifth year during the TIROCINIO professional training. In the new curriculum the Food Hygiene and Public Health comprise of 125 lessons and of those 25 lessons are designed for intramural and 100 lessons for extramural teaching.

There is a quite good link to animal production, pathology, and parasitology. All the subjects of basic sciences are concentrated in the first and second year, and in the third year there are some clinical subjects (such as pharmacology, pathology infectious diseases, etc.).

In the third year the food hygiene and public health are included. The majority of teaching time is devoted to lectures and the practical training is devoted mainly to microbiological investigation.

In the fourth year the students pass the Inspection and Control of Animal Foodstuffs. The main teaching time is devoted to lectures. The students have to pass an exam in the meat inspection. Before taking the exam the students inspect one carcass of pigs, beef and horse only.

There is an elective subject of the Microbiological Control of Food of Animal Origin and Legislation, but only 10-15% students decide to study this subject.

The majority of practical training is shifted to extramural teaching (100 hours) TIROCINIO. The extramural teaching is divided into the horse and equine meat inspection (30 lessons), the pig meat inspection (30 lessons) and 40 lessons are devoted to the practical training at the veterinary inspections at the food processing plants and food industries. A small group of students (5 people max.) under the supervision of a contract professor takes part in the relevant official inspection activities. There is an approved programme both for the food processing plants and slaughterhouses supervised by an authorised person of the faculty. There is a proper documentation (kept both at the faculty and the slaughterhouses and food plants). The university has written contracts with pig, cattle and horse slaughterhouses located close to the university. The university also has agreements with dairy, ham and egg factories. The cooperation between slaughterhouses and state veterinary officers runs smoothly and the contractor professors cooperate with students and faculty at the present time by efficient way.

#### **4.5.2. Comments**

Certain number of teaching hours was shifted from TIROCINIO to pre-professional training ORIENTAMENTO. Teaching food hygiene in pre-professional training is not very prosperous because it is too early and students have not yet enough training and information in animal production and pre-clinic subject.

The students pass exam from meat inspection but until now they inspected only one carcass of pigs, cattle and horse. But this number of inspected before exam is insufficient. It is obvious that the practical training in the meat inspection is shifted into TIROCINIO training program but for the exam it is necessary to increase the number of inspected animals.

The training program between the faculty and the public veterinary services and laboratories (AUSL and Zooprofylactic Institutes) is not prepared and defined sufficiently. There is not approved program for the students and the activity of the institute does not cover all requirements for the students. The main insufficiency is that students who take part in the training at this institute do not participate at the training at a slaughterhouse during the TIROCINIO training program. The practical training in the meat inspection during the TIROCINIO training program should be obligatory for each student.

Extramural training TIROCINIO now operates satisfactorily; it has been introduced 3 years ago.

#### 4.5.3. Suggestions

Strictly recommended to increase number of practical training in food hygiene either in the 4th and 5th years or in TIROCINIO to original number. These teaching hours can be addict to training e.g. chemical, organoleptic activities or training HACCP system.

There is a lack (in principle this training is totally missing) of practical training in chemical, physics-chemical and organoleptic survey and the survey of inhibitory matters residue. Such a survey is included only in an elective subject. I suggest its adding to regular curriculum, obligatory for each student.

The students practice the HACCP system and food technology only at the theoretical level. It will be useful to add some practical training to the curriculum.

### 4.6 ELECTIVE SUBJECTS, OPTIONAL DISCIPLINES & OTHER SUBJECTS

*Questions to be covered: List available electives*

#### 4.6.1 Findings

Every student must take ELECTIVE SUBJECTS (Corsi integrati professionalizzanti:CIP) before the beginning of TIROCINIO. CIPs are planned in the 8th (32 hours, common part) and 9th semesters (32 hours), last 13 weeks and are taught in parallel with the core courses. Common parts include EU- listed subjects regarding Professional knowledge and are taught as seminars by State Veterinary Officers, practitioners and representatives of Veterinary Professional Association.

The allocation of the student into CIP organized by the Faculty is awarded for merit.

The subjects are: • Small and large animals surgery • Microbiological control of food of animal and legislation • Laboratory diagnostic of diseases of animals • Health management of food-producing animals • Internal medicine and patient clinical management  
• Animal production and breeding techniques

The new curriculum has changed the compulsory part of the Elective subjects, so called professional subjects, from 16 to 32 hours.

#### 4.6.2 Comments

The ECTS committed to elective subjects is quite low in the total of the course hours. However it seems satisfactory.

#### 4.6.3 Suggestions

As the FMV increases in capability for clinical work and diagnosis it is possible that the number of electives may gain significance.

## 5 TEACHING QUALITY & EVALUATION

### 5.1 TEACHING METHODOLOGY

*Questions to be covered:*

- 1) *Brief summary of teaching methodology used*
- 2) *Are specific learning objectives set for subject and courses?*
- 3) *Do students work from teachers' scripts or textbooks or other information technology form?*
- 4) *Is problem-oriented teaching used?*

*5) How are courses and teaching evaluated?*

*6) Is teaching mostly theoretical or has practical application a higher rang of importance?*

*7) How much real-life clinical exposure opportunity is offered i.e. hands-on work, 24-hour duty, acute cases, case responsibility, caser follow-up, interaction with clients, practice management etc.?*

### **5.1.1 Findings**

Teaching is based in frontal and practical lectures, with rotation of small groups whenever practicals take place in laboratories. Attendance at both is mandatory and regularly checked. This methodology is followed for the first nine semesters. The tenth semester is only devoted to practical hands-on training – “TIROCINIO”. Students of one class (~60) are divided into six groups and distributed for four weeks into six different fields of knowledge. Attendance is also obligatory during clinical rotations and extramural activities. Presences are registered through the students’ signature in both lectures and practicals. Students are encouraged to use selfstudy material. Twenty courses provide information in the website. However, there seems to be little time available for that. Unfortunately, only rarely will students be asked to prepare material for lectures or to provide presentations to their colleagues.

Day-one skills are acquired by the students in the ORIENTAMENTO that takes place during each summer of the first 9 semester and are certified in a booklet named “Portfolio”.

The teaching quality is evaluated mainly by a student questionnaire prepared by the University of Parma. It is not compulsory to fill it. Part of the questionnaire concerns students studying in Parma for the first time, but the questionnaires of the following years are using the same questions, making the questionnaire losing some credibility. The results of such evaluations are confidential and only known by the Dean and by the teacher concerned. The Dean may ask a professor who’s results are negative to change his/hers methodology, and this has already happened in the past. But there are no effects on career or salary as result of negative appreciation by the students. A tutoring system is carried out at the Faculty, and both teachers and PhD students are involved in the process to improve teaching where necessary.

Regrettably, no PROBLEM ORIENTED teaching and learning methodology is used in most of the areas, with the exception of a very few disciplines such as Epidemiology. The use of English textbooks seems to be rather rare and most of the current textbooks used are English texts translated in Italian.

A student welfare program is in place to transmit the basic knowledge on preventing injuries and zoonotic diseases, together with personal protection on different activities (VTH, necropsies, slaughterhouse, livestock farms and food industry). Besides, the same office is also responsible for periodic inspection of existing facilities in order to prevent risk factors and verify the environmental safety. Students welfare is also ensured through tutoring, sport and recreational activities, mainly promoted by the students association “Il Matone”, internet access at the faculty library and students rooms (“Auleta”), the existence of a bulletin board and forum (where students can post personal data). Adequate guidance on future career development and Job selection are also ensured.

### **5.1.2. Comments**

Some teachers upload in the website scripts and other teaching material, but no internet resources are available to improve the relationship between teachers and students: forums, self-evaluations.

The questionnaire used for evaluating the teaching quality has no clear consequences, either positive or negative.

Students welfare is well addressed and of no concern. Some hand-outs, lecture notes or ppt files are uploaded on internet, because an *Intranet* including academic tools such as Moodle or Blackboard is still not available in the University of Parma.

### 5.1.3. Suggestions

The questionnaire for evaluation of the teaching activity should be more detailed. The Faculty should prepare a more specific document to improve the teaching quality.

Some didactic seminars should be organized by the faculty in order to improve the skills of the teaching staff, mainly in relation to the e-learning.

A “BEST TEACHER AWARD” should be implemented in order to make the difference between good and bad teaching quality.

problem oriented learning could be implemented especially during the clinical case management and case discussions prepared by students.

The skills of English language should be improved and emphasized not only for undergraduate students. English is also the language of continuing education and all residency programs in Europe and in USA.

## 5.2 – EXAMINATION SYSTEM

*Queries to be covered:*

- 1) *How often are students examined and when?*
- 2) *Are there external examiners?*
- 3) *How many times can a student retake?*
- 4) *Are examination structured or piecemeal?*
- 5) *Is the examination system effective and does it require students to have to sit and pass examinations in basic subjects and foundation subjects before continuing on to the later disciplines.*

### 5.2.1 Findings

By law the total number of exams cannot exceed 30, creating integrated courses that perform a single exam. Exams can be oral or written and for several cases the students may request to be examined by one of these methods alternatively. The committee for oral exams is composed of two teachers. The examination system is very complex with seven session periods which may last up to 30 days each (two in the spring, two in the summer and one in autumn). Although not every session lasts as long, in theory, this means that 210 days that is seven months (30 weeks) may be devoted to exams! Not considering here the special sessions at Christmas and Easter. Off-course students may sit an exam every month, providing they arrange it with the professors in established dates.

There is a system of pre-requisites that makes it obligatory to pass the exams of the disciplines considered propaedeutical in order to progress in the curriculum. There is also a number of exams that must be passed before a student may enrol in a subsequent year.

By law, students can retake exams an unlimited number of times, provided they receive a score. This system creates and protects off-course students; that is, a student may remain indefinitely in such situation provided sitting a scored exam at least once every eight years.

SER: 16 students out of 55 (29.1%) graduated at the end of the fifth year and 17 students (30.9%) graduated within the sixth year of the course. Therefore, the duration of studies is nearly 6 years for 60% of the students.

### 5.2.2 – Comments

Seen from an international point of view, it is more than unusual that students can retake examinations for an unlimited number of times.

The presence of a minimum of two professors during examination is very time consuming and the proportion of oral exams is very high. The examination system is a heavy burden on the examiners, because it is very time-consuming and does not motivate students to pass exams as soon as possible.

### 5.2.3. Suggestions

A limit to the number of retakes allowed for each examination should be established by law. In the meantime, any exam with a negative outcome must be scored as such to reduce the number of possible retakes. Also the number of continuous registrations with no progression should be restricted by any means; one way would be to progressively increase tuition fees as semesters without documented activities accumulate.

The time devoted to exams should be reduced and the examinations should be as much as possible written whenever evaluating theoretical knowledge.

## 6 PHYSICAL FACILITIES & EQUIPMENT

### 6.1 GENERAL ASPECTS

*Questions to be covered:*

- 1) *Brief description of facilities with observations on age, suitability etc.*
- 2) *Adequacy of lecture rooms, laboratory and dissection/necropsy halls?*
- 3) *Vehicle availability to transfer students from site to site or to external establishments?*
- 4) *Health and safety items i.e. biohazard warnings, fire extinguishers, eye washes, sluices, chemicals, medicines and dangerous drugs storage?*
- 5) *Adequate facilities for training in food hygiene, carcass handling, access to slaughterhouse, the provision of laboratories for microbiology, toxicology, organoleptics and residue work?*
- 6) *Comment on suitability of site in terms of size, area, local animal caseload, access, transport etc. and availability of suitable equipment for teaching and research?*

### 6.1. GENERAL ASPECTS

#### 6.1.1. Findings

The Faculty is located 3 km from the city center in form of a fenced 42 ha large veterinary campus. The area contains 14 educational and research buildings and the premises of the two departments - The Animal Health and The Animal Production, Veterinary Biotechnologies, Food Quality and Safety, including a fairly new Teaching hospital, dating from 2005. By this arrangement, integration is facilitated. The Faculty has access to other educational facilities as the nearby slaughterhouse, the adjacent Municipal Dog and Cat Shelter, the Zooprophyllactic Institute and the Feed Meal Plant.

The faculty has five big lecture halls with a capacity of 90 to 165 seats in each, as well as one clinical lecture hall with a capacity of 85 seats. There are four other smaller lecture halls with a capacity of 23 to 64 seats. Each unit has research and educational laboratories with the necessary equipment.

There are some vehicles available to transport students to external premises - two vehicles for students with a capacity of 6 and 7 seats. In case of larger groups of students, the faculty rents a bus.

Safety measures in accordance with the EU and Italian legislation are briefly described in SER. Every student attends a four-lesson course concluded with a final exam in the main risks associated with working in the facilities of the faculty as well as on farms and in slaughterhouses. All major areas are equipped with fire extinguishers, extractor fans and facilities for biological and chemical waste collection. Laboratories are equipped with eye-bathing, extraction systems, bio-safety measures. Students are required to wear individual protection devices.

A brand new purpose built Isolation unit for large animals is present including appropriate waste management system.

There are diagnostic services for Parasitology, Infectious Diseases, Pathology and Biochemistry, and also an accredited Laboratory of Food Microbiology in the Department of Animal Health.

The Faculty is a minority shareholder in the municipal slaughterhouse of Parma, where cattle and horses are slaughtered. The slaughter capacity is quite high. In addition the Faculty has some contracts with other private and public slaughterhouses (including pig slaughtering) which are at various distances from the university.

There is no foodstuff processing plant in the FVMUP. Students are sent to various public and private foodstuff processing units (which the FVMUP has closed informal agreements with) for their practical training through educational visits organized at the public and private food processing plants in collaboration with the Veterinary State Officers nominated Contract Professors. Moreover, regarding veterinary public health, food hygiene, inspection and technology, students have the possibility to follow the selected routine activity at the public veterinary services and laboratories (AUSL and Zooprohylactic Institutes).

Food Technology and Public Health is split into two departments (Animal Health and Animal Production). There is not a special laboratory for students' practical training. The practical training is carried out in a research laboratory where there is insufficient space and equipment for larger groups of students (12 to 16 students).

The facilities and equipment for management of cadavers and of biological and chemical waste seem to be adequately covered. Staff seems to be well informed about different security aspects through the Environmental Protection and Prevention Service of the University of Parma.

Concerning the access of students to computers, the Faculty has one computer room (15 PC's) for practical teaching. Internet seems to be available in all the Faculty area.

#### **6.1.1. Comments**

- The capacity of the lecture halls is sufficient.
- In general, laboratories for teaching and research seem to fulfil the needs, although in some cases they could be clearly ameliorated, especially in cases where research work and teaching share the same space and equipments.

#### **6.1.2. Suggestions**

More computer rooms for practical teaching will be necessary in the future. Moreover, the maintenance and renovation of the computers should be a top priority. Internet learning should be implemented as soon as possible.

## **6.2 BASIC SCIENCES FACILITIES**

### 6.2.1 Findings

For Basic Subjects and Sciences teaching facilities are adequate with good laboratories and dissection and necropsy rooms. In fact, the necropsy room has been renewed just before the EAEVE visit and was being used almost for the first time when the visit took place. The equipment and facilities are of very good standard, with a mobile necropsy table for large animals. Equipment for photography and video transmission were also provided. An excellent dressing room for both sexes is present and protecting clothes?? clothes? are available for all students.

Disposals from the dissection and necropsy room are handled by a private company once or twice a month upon request. Category 1 by-products are kept in 700 kg containers in a freezing room. Hazardous waste disposals are collected in special plastic buckets with safety locks and removed by the same company.

In Basic Sciences students attend most practical classes in groups of 25 to 30, or are divided in small groups of four or five in practicals involving dissection or necropsies. In subjects such as epidemiology teachers use the Computer Room with one or two students sharing the same computer. For other subjects such as microscopic anatomy of anatomical pathology multiple functional rooms are available, well equipped with modern microscopes and sets of slides. Occasionally and for some subjects (ex: Toxicology) practicals have to be repeated various times, but this seems inevitable as the laboratories accommodate small numbers of students and the manipulations involved demand extra careful approach. Anatomy is also taught in the Anatomical Museum where an excellent collection of models is complemented with good numbers of bones and plastic models.

### 6.2.2 Comments and Suggestions

The FMV is generally well equipped for the teaching of Basic Sciences.

**Suggestions** on the better use of materials in the Basic Sciences practicals will be presented in chapter 7.

## 6.3. CLINICAL FACILITIES AND ORGANISATION

*Questions to be covered:*

- 1) Make brief overview of facilities indicating departmental responsibilities*
- 2) Are there diagnostic laboratory facilities and do they carry out external work?*
- 3) Comment on clinical facilities and organization of clinical services.*
- 4) Is there a 24h emergency care service, adequate hospitalization/treatment ?isolation facilities and/or mobile clinic?*
- 5) Are there possibilities for additional animal materials from stables, farms, kennels, game reserves etc?*

### 6.3.1 Small Animal Facilities

#### 6.3.1.1 Findings

Clinics-VTH are fairly modern as they were built in 2005. Buildings are quite small and have been added gradually to existing buildings. However, most of them have been renovated recently (VTH, LA isolation, heifer stables and cattle stables). Also equine stables have been doubled (over 25 boxes) and are sufficient at present. Surgery and recovery is relatively small but adequate. An intensive care unit is present next to the new 24hrs emergency facility. A small but sufficient diagnostic laboratory is available 24/24 and usable by students. A well equipped imaging service with digital radiography and a modern ultrasound unit is present. X-rays can be done during Emergency service hours as well.

#### 6.3.1.2 Comments



Various elements essential to teaching, research and service in the clinical area have been created or instituted only very recently prior to the EAEVE visit. Examples are: the 24 hour-Emergency Service and Intensive Care Unit for companion animals, the Mobile Clinic, the Small Animal Hospitalisation service, the Large Animal Isolation Unit, the Equine Surgery and the re-built Necropsy Facility.

**Suggestions:** any further evaluation of the new and essential clinical services, including equine surgery and medicine, does require an adequate period of function. The team suggests that after such period of functioning, providing an adequate caseload and teaching activity in the said services, a re-evaluation of those services should be done.

### **6.3.2 Large Animal Facilities**

#### **6.3.2.1 Findings**

Equine and bovine stables are adequate and numerous for the case material. Also equine surgery and diagnostic imaging facilities are established, but at present under-used.

The Faculty has no farm facilities. In the page 140 of the SER it is said that that only “four cows are permanently housed and other 4-8 cows are housed weekly in stables of the Faculty for intramural rotation of cattle. The fact is that these 4-8 cows are used every week for teaching purposes before the group is transferred to the slaughterhouse where students may follow the animals and even perform post-mortem exams. This arrangement is excellent and provides ample bovine material for propaedeutic as well as for clinical teaching. Three mares and two stallions are maintained for propaedeutic teaching purposes”. There is an active section of equine reproduction, involving stallions and many mares for insemination and parturition on site.

There are several livestock farms near the Faculty for practical training. The SER states that 11 farms of cattle, one of buffalo, one of sheep and 5 of pigs are used to receive students for veterinary education. There are numbers of partner-livestock farms located within an easy reach of the Faculty that enable the students, divided into in animal production under the direct supervision of the Teaching Staff and/or Contract Professors.

Starting November 2010, a mobile clinic, equipped for clinical livestock service, has been available.

### **6.2. 2. 1 Comments and suggestions**

The teaching on Clinical Subjects is generally considered as the most challenging field and definitively the one that elicited our highest attention and concern.

In most modern veterinary hospitals, there are evolving problems with nosocomial infections. Therefore, it is advisable to institute hygiene protocols, antibiotic use-protocols, isolation protocols and bio-security / bio-safety protocols in the VTH. Easiest is to institute immediately hand-hygiene (using alcohol plus glycerine/glycerol hand-solution) and advise all personnel to use this before and after they handle every patient.

The facilities for housing farm animals need to be improved. A small teaching unit for pigs and small ruminants, like the one presently available for cows, should be built.

The visits to farmers are important, nevertheless, the Faculty needs to have facilities for housing several farm animal species in order to carry out both clinical and zootechnical activities and for integrating teaching of Animal Health and Animal Production.

Although premises, equipment and personnel (with the exception of equine surgery/medicine staff) are now fully functional, case numbers are building up only since a short period. At the time of the on-site visit, those numbers, although clearly on the rise, have still to be considered below the acceptable levels. Although practitioners (contract professors)



somewhat compensate for lack of faculty staff in equine surgery (due to recent retirement of 2 senior professors) it is imperative that new staff on the specialist level (preferably College Diplomates in equine medicine and surgery) are being employed by the faculty.

The FMV is highly stimulated to pursue with the efforts of improvement so that case numbers within the listed services will reach, and likely exceed the expected levels within a short period of time.

## 7 ANIMALS & TEACHING MATERIALS OF ANIMAL ORIGIN

*Questions to be covered:*

- 1) *What sources are available which provide access to animal material?*
- 2) *Is there a working farm where students can do practical work in the animal production subjects?*
- 3) *Ratios students graduating : clinical caseload pets / livestock / necropsies*
- 4) *Adequate fresh chilled or prepared material for anatomy?*
- 5) ***Adequate necropsy material and is it balanced?***
- 6) *Are adequate clinical materials available to enable staff to maintain or develop their skills and is there a reasonable balance between small animal and large animal cases?*
- 7) *Are the students given adequate exposure to slaughtering of various species as well as to materials for supporting food hygiene training?*

### 7.1 Findings

Anatomy obtains cadavers from calves, sheep and pigs deceased with non-infectious diseases from local farms and viscera from slaughterhouses. Horses are difficult to obtain, therefore horse foetuses from the slaughterhouse are being used for dissection. Pigs are also obtained from farms providing they have died of no infectious diseases. Dissection of dogs and cats is made from cadavers of animals that died of non-infectious diseases in the municipal shelter. Storage of cadavers and organs is by refrigeration and freezing.

Most practical classes involve groups of 30 students and two hours of teaching. In Anatomy the 30 students are divided in six groups of five students each. There is an outstanding collection of anatomical preparations, bones and plastinated specimen (a museum fully accessible and usable for students). The dissection room has six tables in an 80 m<sup>2</sup> area in a basement. Histology and Microscopic Anatomy training is done in a 32 microscopes room. The students are also divided in two groups of 30 each, for two hours a week.

Some practicals such as Physiology, take place on healthy live animals outside the Faculty, in close-by dairy farms. Students are transported in large groups of 60 (throughout the academic year) and are divided in groups of 15-20, being exposed to a limited number of animals for activities such as digestive system evaluation, blood sampling and behaviour studies. A total of 19 visits to farms (11 of dairy cattle and 8 of pigs) were performed during 2010.

Gross pathology teaching uses cadavers and fresh organs obtained from various slaughterhouses in the region. Pathology practical training takes place in the necropsy room (93m<sup>2</sup>). Students are divided in practicals in the necropsy room in groups of three or four. Cadavers for necropsies are obtained from livestock farms, local private clinics and from the Veterinary Teaching Hospital (VTH). Numbers and species of necropsy material is acceptable except that numbers of necropsied rabbits is extremely low, 1 per each of the last three years, but contrarily, the number of poultry available for necropsies is good. With the new curriculum applied, students will perform necropsies during the TIROCINIO. Apparently, students will stay for four weeks and 125 hours working in groups of three or four, dividing between pathology (50 hours), parasitology (25 hours) and infectious diseases (50 hours). Disposals from the dissection and necropsy room are handled by a private company once or twice a month upon request. Category 1 by-products are kept in 700 kg containers in a

freezing room. Hazardous waste disposals are collected in special plastic buckets with safety locks and removed by the same company. For ratios see Annex 2.

## 7.2. Comments

In Pathology the number of cattle cadavers in Table 7.2 in the SER was increased with 147 cows from the municipal slaughterhouse in 2010. These cows represent the animals that were obtained in the public livestock market and that come to the Faculty for teaching activities before going to the slaughterhouse. However, it may be interesting for students to accompany the slaughter of these animals, although the experience cannot be considered equivalent to necropsies. The number of horses necropsied is very low – four in three years. The number of companion animals necropsied is acceptable although also small. It is clear that the FMV makes the best possible use of the material available for teaching Basic Sciences and for necropsies. However, there is large room for improvement in the number of cadavers necropsied of certain species such as horses and companion animals.

Except for pigs, the number of formal agreements signed by the Faculty with private dairy cattle farms fell dramatically in 2010 (1 farm) when compared to 2008 and 2009 (8 farms) (table 7.2c of the SER). This fact could be a problem for the practical training in Animal Production in the near future. Case loads both in small animal hospital and equine hospital needs improvement. Innovative ways of increasing exposure to cows (to be slaughtered) is a really good way to improve the hands-on training of students in reproduction and internal medicine.

## 7.3. Suggestions

As material for practicals in Anatomy, is so difficult to obtain, new methods of preservation should be tried such as impregnation with polyethylenoglycol.

In order to increase the case load in the necropsy service, every effort should be undertaken to insure that animals dying or being euthanized within the clinical services are being subjected to autopsy. It can be expected that the improvement of the case load in the teaching hospital will also provide more material for Anatomy and Anatomical Pathology, improving the ratios indicated above.

Also as there is no faculty farm available, developing the mobile clinic practise to compensate for the lack of the farm is strongly anticipated. Farms with positive attitude towards students training should be sought and agreement of veterinary activities made with them on a routine basis. Some professors do have this kind of practise with some cow and pig farms. More students should be exposed to this practise. The excellent relationships of the Animal Production teaching staff with the dairy cattle farmers have to be maintained in order to guarantee for the future the practical training in this area of knowledge

There is a definite concern of students not being exposed enough to clinical equine cases in practice; the contract professor arrangement may compensate from now on but numbers should be checked or re-checked within the next future. Agreements can also be made with certain horse stables for the routine care (e.g. vaccinations, dental care, lameness problems) Recruiting a person/professor in charge of equine surgery/medicine (with recognition by clients) should have first priority.

## 8 LIBRARY & EDUCATIONAL RESOURCES

*Questions to be covered:*

- 1) *Brief overview of library facilities*
- 2) *Number of journals subscribed to and on-line services?*
- 3) *Exchanges with other university libraries?*
- 4) *Central library indexing?*
- 5) *Departmental libraries, accessible easily to students?*

- 6) *Are journals, periodicals, standard texts sufficient?*
- 7) *Is the balance teaching : research acceptable?*
- 8) *Are the opening hours student-friendly and are there adequate staff?*
- 9) *Do students use the library well and are they trained to use it?*
- 10) *Do students really have access to departmental libraries?*

## 8.1 Findings

Founded in 1975, the Library of the Faculty of Veterinary Medicine of Parma is one of the seven central libraries of the University of Parma, being supervised by a central body "Settore biblioteche" from the University. A Library committee, independent from the FVM, is responsible for cultural and scientific choices.

With three full time workers and students as part-time workers (0,36 part time employees), the library is opened from 8:30 until 18:30, except during the weekend, one week in August and two during Christmas holidays. The library covers 258 square meters, with one studying room, one computer room with 8 computers, 2 CDROM/video stations. Access to printers and photocopiers is also provided. Bibliographic resources consist of approximately 1,435 books and 15,805 total annual journals, available "on line" in the library Web site. The on-line literature search service works efficiently and is friendly user. E-journal provides the access to 20,000 titles on veterinary medicine subject through all workstations connected directly with the University network or through virtual private net, insight the public network-internet (VPN), after a prior authorization. The NIDLE, which establishes the connection between different libraries, allowing for the exchange of documents, is frequently used (100 times monthly).

The main library offers to the students the possibility to loan books (maximum time - 3 weeks when at least 2 books are available, or during the night or the weekend when just one exemplar is present). The Subsidiary Libraries are located in the sections that represent the previously existing institutes. They contain a good number of books that, at present, could not be held in the main library due to lack of space. They function as reference libraries and as study rooms where various specialist books or journals related with research activity carried by each group can be found. All books and journals in these libraries are registered in the on-line catalogue and they are available to students within the same timetable as the main library.

## 8.2 Comments and suggestions

Central library is well organized and supports student's learning activity with updated books and journals, as well as CD ROM and videos. The large number of subsidiary libraries leads to decentralization of the documents, but this seems to be well accepted by all and functioning with no constraints as far as students are concerned. There are no suggestions for improvement.

## 9 ADMISSION & ENROLMENT

*Questions to be covered:*

- 1) *Is a selection procedure in operation and is it legal?*
- 2) *Is there a "numerous clauses" and what are the criteria used?*
- 3) *What is the link between budget and the number of students?*
- 4) *Does the intake take account of the national need for veterinarians?*
- 5) *Does the admission procedure result in students who have the aptitude, knowledge base and motivation for veterinary studies?*
- 6) *Does the admission procedure take into account the limitations of the resources available?*
- 7) *Is there a high drop-out rate and what are the reasons?*
- 8) *Does the admission process result in access inequalities?*

## 9.1 Findings

Admission quotas to the veterinary degree courses in Italian faculties are determined by the MiUR, which establishes the maximum number of Italian/EU citizen and non-EU admissible to the first year and candidates selection conditions. This maximum number of students depends mainly on the “Educational potential” of the Faculty, conditioned by lecture halls availability, teaching, scientific and support facilities for practical activities, as well as number of teaching and technical staff. The number of admissible students proposed by MiUR decreased during the last years, being assigned for the FVMUP, for the year 2009/10, 71 students (68 EU citizens; 3 non EU citizens). This reduction was also due to the results of a national survey that established the need in veterinary graduates in Italy through the results provided by a working group composed of MiUR technicians, representatives from the national board of veterinarians and Deans from several faculties of veterinary medicine.

Possession of a 5 years secondary school diploma is the minimum requirement for taking the admission examination to veterinary degree in FVMUP.

The number of candidates largely exceeds the number of places available. In 2009/2010 the number of candidates was 378 for 68 places for EU citizens.

A multiple choice test, developed by the MiUR to all faculties, takes place once a year at the same time. From a total of 80 questions, 50% are of general knowledge, 22,5% of biology, 13,75% of chemistry and 13,75% of mathematics and physics. Prior to this test, applicant should have chosen already the faculty to enrol. Students who passed the admission test, but had a score lower than 50% on mathematics, biology, physics or chemistry questions, are admitted with a so called “educational debt”. These students attend extra-curricular compulsory teaching activities during the first year which effectiveness has been confirmed.

The total percentage of drop-outs is approximately 18.58%, mainly during first and second years (62% and 23% of all drop-out students, respectively). Furthermore, about 21% of the students are repeaters and 23% are off-course.

To be accepted into the following year students must have an attendance certificate for all teaching activities for the reference year and have passed a minimum number of exams.

The off-course students are a peculiarity of the Italian system that allows a student to register in the faculty after having completed five years of studies independently of the numbers of exams succeeded or credits obtained. In the year 2009/2010 the number of off-course students was 134 in a total of 455 (29,4%). Repeaters were 124 (27,3%). Altogether, repeaters and off-course represent 56% of the total of students enrolled.

## 9.2 Comments and suggestions

After 5 years of secondary school, a good result on the multiple choice test is the main prerequisite for admission in the first year of Veterinary degree in FVMUP. The resultant heterogeneity of students undoubtedly affects learning capabilities on basic subjects and consequently may be the main cause of the high number of repeaters during the pre-clinical years.

The reduction in the number of students admitted, that could look as a threat to the financial survival of the FVM, should be on the contrary considered as very positive. Financial constraints could be overcome with a good hospital service, and the school could be known for the high quality of the teaching due to the good ratio teachers/students.

The high number of off-course students should be discouraged with the progressive increase on the value of tuition fees in correlation with the number of years enrolled. The very benevolent system is certainly stimulating the maintenance of this status quo.

There are a very high percentage of students that are not regularly progressing in their studies and this should be addressed as a real problem by the Pedagogic/Educational committee.

Even not being evident that there is any disadvantage for students with children, they are absent. Perhaps an easier access to kinder gardens would allow them to pursue their studies, instead of having to look for jobs outside.

## 10 ACADEMIC & SUPPORT STAFF

*Questions to be covered:*

- 1) *Ratio of teaching staff : students is?*
- 2) *Ratio of teaching staff to support staff is ?*
- 3) *How and by whom are all staff appointments and staffing levels decided?*
- 4) *Percentage of staff who are veterinarians?*
- 5) *Comment on staff ratios in relation to the SOP.*
- 6) *Comment on staff shortage or mis-proportion*
- 7) *Can staff move within the establishment?*
- 8) *Are posts which fall vacant automatically filled or must they be fought for?*
- 9) *Are certain staff able to be flexibly deployed i.e. for clinical services etc.?*
- 10) *Does the establishment encourage staff to acquire additional skills and training?*
- 11) *How free is the establishment to decide staffing levels and benefits?*

### 10.1 Findings

78% of the teaching staff in the FMV is veterinarians. There is also a small number of veterinarians working as support staff. The ratio of teaching staff to support staff in veterinary training is 1/0.87, and the ratio of teaching staff to undergraduate students is 1/7.9. Percentage of full professors (n=21) in relation to the total teaching staff is 34%, and young teachers (Researchers) only represent the 27%. Moreover, There are many difficulties (mainly by economic reasons) to get new teaching personnel. Therefore, the average age of the teaching staff of the Faculty is high (60 years for Full Professors and 50 years for Associate Professors), even for Researchers (40 years). Out of the budgeted teaching staff (Full and associate Professors and Researchers), the Faculty recruits Contract Professors to cover the requirements for practical training. Contract professors is a very nice and innovative way of getting more teaching power from practitioners; however, it cannot be seen as a good and only long term solution for the stabilization of the academic personnel in university level.

No established internship program exists at present. Also residency programs are being established only to ECPHM-college. There are also only a few Diplomates in staff (parasitology 2, porcine health management 3).

Both teaching and support staff assigned to the Department of Animal Health are more than 2-fold higher than those assigned to the Department of Animal Production and Food Hygiene.

### 10.2. Comments

The average age of the teaching staff is really high even for the “youngest” category (Researcher). That means that no new posts are offered. The situation is aggravated by the freeze imposed by the Government for replacing retiring faculty.

In the Veterinary faculties of Italy, and therefore in the Faculty of Parma, the educational itinerary for the future full time teachers seems to be clearly established. Some PhD programs are implemented in the faculties, and to become a Researcher is required to have the PhD degree and some international publications in SCI journals. However, the continuous decreasing of the number of Researchers can be a problem at the medium term

because the choice of the academic education does not guarantee a teaching post. The Contract Professors (professionals/practitioners) are useful for practical teaching and for clinical training, but they cannot replace the losses of the budgeted posts.

The ratio students/teaching staff seems to be adequate, mainly due to the reasonably low number of students. The ratio support staff/teaching staff seems to be low. However, it has to be taking into account that the Faculty has not a teaching/experimental farm, where some posts of technical staff are usually allocated.

There is not a periodical evaluation of research for budgeted posts at national level.

The competition for a budgeted post is resolved by a national commission of 3 members. In the future and according to the new regulation of the University in Italy, a national accreditation system for the different budgeted post will be established.

The qualification of the support staff is quite high, even higher than the requirements for their working posts. Moreover, almost 70% have a good knowledge of a foreign language. However, continuing education possibilities of the support staff is found very limited at present. Support staff is not either represented in the Faculty Board.

The creation of spin off's and start up's in various fields are regarded as very positive, making the best use of the human resources and the facilities of the faculty, providing innovative services interesting for all users.

### **10.3 Suggestions**

Teachers who are committed and recognized by the students – should be accredited somehow. For instance, nominating 'the clinical teacher of the year', 'the contract professor of the year' or the 'practical hands-on teacher of the year' etc. etc. and recognizing this person with an award (diploma/document to be placed on his/her wall in office) is strongly suggested.

Internships aimed for young graduating young veterinarians should be established especially for the clinical rotation in VTH (see [www.ebvs.eu](http://www.ebvs.eu)). Through the internship, young veterinarians can apply to residency programmes anywhere in Europe and gain specialization training. Residency programmes should also be established and thereby further to increase the competence of the clinical services in VTH. This all would have a great impact on increasing the caseload, teaching and research activities.

The new regulations of the University in Italy involve a new accreditation system at national level. Therefore, the dedication of the budgeted posts to the PhD students needs to be improved in order to encourage them to publish scientific papers in peer-review journals as soon as possible.

Considering that in the near future it is foreseeable that some full professors will be retired, the main objective of the Faculty should be at least to maintain the number of budgeted posts, and new graduates with the PhD degree and a specialization title (European colleges or a postdoctoral stage abroad for more than one year) could be incorporated to the academic staff.

Junior staff has to be considered as the future of the Faculty and their research capabilities and didactic skills should be appropriately considered for matters of professional development and promotion.

Faculty should encourage the continuing education of the support staff as they are the core for the function of the teaching and research activities. Members of support staff should be also in Faculty Board.



## 11 CONTINUING EDUCATION

*Questions to be covered:*

- 1) *Is Continuing Professional Education (CPE) in the objectives?*
- 2) *Is a CPE programme in place?*
- 3) *Who is the CPE programme aimed at (practitioners, state veterinarians, specialists, production animal/herd health veterinarians, small animal veterinarians)?*
- 4) *How is the CPE structured?*

### 11.1 Findings

Continuing education, extensive services and consultation are part of the objectives of the FVM of Parma. The Faculty is very active in organizing CPE; 4 courses in 2010 and 16 courses during the last 3 years. Also patronage to 12 meetings and congresses/courses was offered during the same years. The Faculty is also involved in organizing courses together with major Italian private and public institutions and associations, and offers sponsorship to external courses. The courses that were organized by or at the Faculty since 2008 account for a total of 451 hours. In 2010 the total was 48 hours. Since 2008, the FVM patronized other activities, such as courses and scientific meetings in a total of 192 hours.

The introduction in 2000 of the compulsory Veterinary Continuing Medical Education (VCME) by the Ministry of Health has positively influenced the continuing education programs offered by the FVM. Eight Professional courses were organized in 2008, 2009 and 2010, varying from 8 to 140 hours, each hour corresponding to one credit. Italian veterinarians have to accomplish a minimum of 30 and a maximum of 70 credits per year. There are no distance-learning programs. The main institution involved with the Faculty for the logistics of the Continuing Education is the Post-university Institute Santa Chiara.

### 11.2 Comments and suggestions

The creation of a Board for Continuing Education would be a good way to establish regular programs.

As no internet learning is offered at present and teachers are providing their teaching material through internet to students, this material could also be utilized for CPD for e.g. practitioners. This type of CPD-education could also be sold to practitioners to keep them updated with the current knowledge in their busy practice.

Collaboration with different companies (Intervet, Pfizer etc) can lead to fruitful arrangement of clinical CPD courses. For example, company takes care of advertising, registration of participants, food, hand-out printing and course documents. Clinical experts do the lectures and/or practicals and income is submitted to the relevant department/section arranging the course. This income can be used as scholarships for excellent PhD students etc.

## 12 POSTGRADUATE EDUCATION

*Questions to be covered:*

- 1) *Outline the types and structure of post graduate research training*
- 2) *How many interns and residents are enrolled?*
- 3) *Does a Masters or PhD programme exist and what structured training is given?*
- 4) *Are there minimum publication requirements for postgraduates?*

### 12.1 Findings

The Faculty offers PhD courses, one of which internationally organized. It also provides degrees through Postgraduate Specialization Schools and an international Masters degree.

PhD courses are organized in five areas: National and European Legislation on Food Safety and Control; Experimental and Comparative Immunology, and Immune-Pathology; Domestic Animal Orthopaedics; Animal Production, Veterinary Biotechnology, Food quality and Safety; Animal Health, Breeding and Livestock Productions. PhD candidates have to pass an entrance exam. Some PhD students receive a grant, but a limited number of candidates can be admitted with no grant. Usually these are in higher number than the former. There are eleven PhD students registered in 2010, eight of which without grant. There are no minimum requirements in respect to publishing in international journals prior to be granted the title of PhD. The thesis is discussed in front of a jury (Commission) with three members, two of which are external to the FVM and one is the supervisor. PhD students are involved in teaching being considered important collaborators in practicals and seminars. There is no limit in the collaboration requested to PhD students.

In 2007, the Faculty organized an International PhD course on “Inspective and Sanitary Concern in Animal Production in Exchanges between the European Union and the People’s Republic of China”. This course is co-funded by the Italian government that also provides grants for Chinese students and by various Italian Universities, including Parma. Other partners are Italian Regional Offices. The course is partly taught in China. The total of places available have been fulfilled, but with a single Chinese student.

Two members of the Teaching staff of the Faculty are Diplomats of European College of Parasitology (ECVP).

The Faculty had its Residency Program of the European College of Porcine Health Management ECPHM approved in 2009, having two residents at present. The program is scheduled for three years, but if taken part time it can go as long as seven. Three members of the teaching staff are part of the European College of Porcine Health Management. There is one Diplomat in Bovine Health Management, however, there is no residency program running in this speciality.

*Postgraduate specialization schools:* The admission of veterinarians in the National/Regional Health Services requires a Diploma of National Specialist, obtainable in the Italian Veterinary Faculties (MD 27/01/2006). The FVM organizes three specialization schools:

1. Inspection of food of animal origin (57 registrations and no certificates granted up to date)
2. Animal Health, Breeding and Livestock Production (41 registrations and no certificates granted up to date)
3. Swine Pathology (30 registrations and 24 certificates granted)

Each course comprises 180 ECTS (450 hours), 70% of which are practical training.

In 2007/2008 started a two years International Masters on Food Technology organized in conjunction with the Faculty of Agronomy of Parma and the Faculty of Agronomy of the University of Buenos Aires and also food companies from Argentina. Institutional contacts and teaching benefit from a videoconference system.

## **12.2 Comments**

Although various activities are going on the field of Continuing Education there are no residency programs for many European College Diplomates in clinical fields.

The PhD students and postgraduates do not have any representative organization.

## **12.3 Suggestions**



It is strongly suggested that the Faculty pursues with programs for resident and Intern training in clinical areas, that are essential to assure the quality of clinical training for the future and to stimulate clinical research.

The creation of a formal organization for PhD and post-doctoral fellows could be useful in the future for a better recognition of their rights and concerns.

## 13 RESEARCH

*Questions to be covered:*

- 1) *Briefly outline the research commitment and concepts*
- 2) *Is there sufficient use of existing research to introduce undergraduates to the concepts?*
- 3) *Is the research effort cohesive or fragmented?*
- 4) *Is there a clear research strategy within the establishment?*

### 13.1 Findings

Both departments of the FVM have good facilities for research. The funding for research involves, in some cases, external and nongovernmental organizations such as European Food Safety Authority. However, most funding comes from governmental funds.

The research efforts are not necessarily cohesive, although good collaboration seems to exist between some sectors, within sectors and with other schools within the University of Parma and elsewhere. Funding for research is becoming very scarce due to economical constraints and the future of research activities is not clear. The period between a national call for presentation of projects and the results of such call can take from one to two years.

There is little experience in the use of European Funds for research, partly due to the fact that teachers believe it is very difficult to apply.

Some sections of the FMV are promoting new solutions for the development of the competences that derive from research, promoting solutions for clinical problems that may have commercial interest, leading to the formation of "star up's". This is being regarded as a solution for the future of the young collaborators that having finished their fellowships will not have the opportunity of a contract with the Faculty to follow their activity.

The FMV has various collaborators with the statute of Research Fellows. Research fellowships may be granted to individuals that have obtained their PhD. These grants are for two years renewable for another two years upon positive evaluation of the first two years. The Research Fellows have teaching responsibilities together with the need to follow a specific research program. Forty research fellowships have been granted since 2006. However the future seems to indicate that there will be no more funds to renew these grants or to provide new ones.

Students are involved in the research by making the compulsory final thesis, especially those who choose for an experimental thesis (the alternatives are the review thesis or the review and clinical reports). In the OC-2001 the students chose their topics by the end of the 4th year and devoted their 5th year and more to the experimental work and writing process. The NC-2009 reduced the time devoted to the thesis from 15 to 9 ECTS. The topic has to be chosen in the 3rd year and developed in methodology in the 4th. A list of topics is made available by the school, each teacher having to provide at least three topics of their disciplines, but free choice of topics is possible providing they are approved. The students are introduced to the scientific methodology under the guidance of a supervisor (relatore) and the thesis submitted to the judgment of a reviewer (controrelatore) before the discussion in front of a Commission. The final exam of the thesis is screened by a committee of 7

members of the teaching staff of the faculty. Since 2006, 72 experimental theses have been produced within a total of 366 (19,6%). No special funds for research are available for the experimental thesis.

At the time of the EAEVE visit the new dispositions of the NC-2009 have not yet been experimented. It is believed that the present delay in the time of obtaining the degree will be significantly reduced.

### **13.2 Comments and 13.3 Suggestions**

Research seems to be a good part of the activity going on in the FVM. The number and type of publications show that the teachers usually aimed for good quality journals. Students benefit from that activity whenever they want to perform experimental thesis of laurea.

Research Fellowships will be possibly difficult to obtain in the future, with problems in teaching especially in practical teaching.

The opportunity of forming “spin off’s” that will eventually lead to “star up’s” may be an interesting way profit in the best possible way of the capabilities deriving from the research experience obtained. Innovative ideas also have the possibility of interesting the funding from companies or foundations where governmental money is scarce.

The University of Parma could create an office especially devoted to provide support to all those within the University that want to apply for European Funds, helping with finding partners in Italy and abroad and fulfilling the requirements of the calls. This could be useful for the Faculty but also for the whole of the University.

## **EXECUTIVE SUMMARY**

The Faculty of Veterinary Medicine is one of the twelve faculties of the University of Parma, one of the oldest in the world. Its location in Parma – important cultural centre and territory of well known agricultural and economical importance has shaped the faculties’ curriculum with emphasis of food production and quality control (Parmesan cheese and prosciutto di Parma). The main objective of undergraduate veterinary formation is achieved through a 5-year curriculum, which is aimed at fulfilling EU-EAEVE-FVE requirements. Organisation and Finances are typical for the Italian State Universities; that is: an administration with a dean supported by a large number of committees – the question of efficiency of all of them has been raised – departments with strong autonomy and a governmental budget undergoing strong austerity measures. The resulting freeze of staff recruitment and non-replacement of retiring teaching staff is of major concern and leads in some areas (equine surgery) to dangerous shortages. Also, the significant and laudable increase of practical clinical teaching in the new curriculum is not remunerated adequately. The curriculum, fulfilling Directive 36/2005, is satisfying in basic sciences, although more practical teaching is desirable, is good to excellent in Food Animal and Public Health Sciences and is of variable quality in companion animal sciences (see last paragraph). Facilities are satisfying, some are very well quipped in basic science laboratories and the relatively new teaching hospital is fulfilling all basic requirements. There is no Faculty owned farm, but the compensation is satisfactory by contracting farms and having a mobile clinic; also, the lack of teaching expertise in some areas (for instance large animal surgery) is compensated by 55 qualified non-academic veterinarians and official veterinarians, all teaching under the auspices of the Faculty. Although this strategy seems to allow presently teaching up to the standards, the Faculty should see this as a temporary measure only, as it is strongly recommended to foster in-house specialisation by recruitment of experienced staff such as EBVS-Diplomates, by establishing more residency training programs and by instituting a rotating Internship program. This will also enhance clinical research that still needs substantial support whereas research output in basic sciences and in PhD programs is satisfying.

The clinical area of companion animal teaching (including equine) is, however, of concern; that is:

All elements are present for clinical teaching and for delivering appropriate services according to guidelines and we commend the Faculty for effort and investments which have provided all required elements prior to the evaluation. However, some of those elements have been created or been instituted only very recently. Examples are: the 24/7 Emergency Service and Intensive Care Unit for companion animals, the Mobile Clinic, the Small Animal Hospitalisation service, the Large Animal Isolation Unit, teaching in Equine Surgery and medicine with the aid of contract professors and the re-built Necropsy Facility. Therefore, although premises, equipment and personnel are now fully functional, case numbers in the listed services are building up only since such a short period that at the time of the on-site visit, those numbers, although clearly on the rise, have still to be considered below acceptable levels. The team judges this as **one single major deficiency** although we have evidence, that within an acceptably short period of time the numbers will fulfil requirements in the listed areas; the very recent addition of the contract professors is an additional strong indicator for swift normalisation of the present situation. We therefore suggest awarding “conditional approval” to the Faculty of the University of Parma, with the expectation that case numbers within the listed services will reach expected levels within a reasonable period of time..

#### **Annex 1 Listing of Category 1 Deficiencies (see 4.4.3)**

**The Faculty has previously recognised the flaws of services and of teaching in emergency service, hospitalisation service, case loads in equine medicine & surgery and recovery and the ambulatory clinic. Although all elements are now in place to rectify those deficits, all corrective actions have been instituted so shortly, that is too shortly prior to the visit that the team is unable to evaluate effectiveness, contingency and continuity of those actions. We therefore believe that this constitutes and should be considered at the present time as one major deficiency consistent with the suggestion of a category 1 deficiency.**

#### **Annex 2 Ratios calculated by Faculty**

##### NOTE

All indicators have been calculated according to the SOP Annex 3 (Final version accepted GA Hanover, May 2009, page 13 and following).

In order to calculate each indicator:

- a) the corresponding ratio has been normalized bringing to 1 the numerator of the fraction, then
- b) the denominator has been calculated.

Such denominator represents the indicator.–

R#	Variables	Values	Denomin.	Range (from SOP 2009)	Notes
<b>R1:</b>	No. total FTE in veterinary training <sup>d</sup>	73.07	1	8.85 - 10.42	We have 7.9 student for every teacher. This value is better than the range
	No. undergraduate veterinary students <sup>a</sup>	579	7.924		
<b>R2:</b>	No. of total FTE at Faculty <sup>e</sup>	80.16	1	8.75- 12.54	We have 12.75 student for every teacher. This value is slightly above the range
	No. undergraduate students at Faculty <sup>b</sup>	1022	12.750		
<b>R3:</b>	No. total VS FTE in veterinary training <sup>f</sup>	57.15	1	10.62- 12.62	We have 10.131 student for every teacher. This value is slightly better than the range
	No undergraduate veterinary students <sup>a</sup>	579	10.131		
<b>R4:</b>	No. total VS FTE in veterinary training <sup>f</sup>	57.15	1	4.91- 7.21	We have 1.28 student graduating for every teacher. This value is better than the range
	No. students graduating annually <sup>c</sup>	73.20	1.281		
<b>R5:</b>	No. total FTE academic staff in vet. training <sup>d</sup>	73.07	1	0.53- 2.20	Our value is within the range
	No. total FTE Support staff in vet. training <sup>g</sup>	63.29	0.866		

R#	Variables	Values	Denomin.	Range (from SOP 2009)	Notes
<b>R6:</b>	Theoretical training (A+B+C)	2,146	1	0.51- 0.36	We teach about one hour of supervised practicals for every hour of theory. We perform more practicals than required by the established range. According to the SOP range, for each hour of theory, 0.5 to 0.36 hours of practicals are enough.
	Supervised practical training (D+E+F)	2,036	0.949		
<b>R7:</b>	Clinical work (F)	1,258	1	1.88- 2.21	Students perform 0.618 hours of lab and desk based work for every hour of clinical work. This means that, inside the all practicals, the students perform more clinical practicals than required by the established range.
	Laboratory and desk based work + non clinical animal work (D+E)	778	0.618		
<b>R8:</b>	Self directed learning (C <sup>1</sup> )	2,890	1	0.51- 7.87	Our value is within the range
	Teaching load (A+B+C <sup>1</sup> +D+E+F+G)	7,500	2.595		

1 :this Self directed learning includes "home study" not reported in Table 4.1.

**ECOVE decision: CONDITIONALLY APPROVED**

**Cat. 1 def confirmed by ECOVE: Lack of long term clinical teaching activity (impact of outsourcing teaching staff, emergency service, hospitalisation, case load, ambulatory clinic)**

4.1.6.2 Special indicators of training in food hygiene/ public health

R#	Variables	Values	Denomin.	Range (from SOP 2009)
<b>R9:</b>	Total no. curriculum hours Food Hygiene / Public Health <sup>2</sup>	368	1	still open
	----- Total no. hours veterinary curriculum <sup>1</sup>	4,353	11.829	
<b>R10:</b>	Total no. curriculum hours Food Hygiene / Public Health <sup>2</sup>	368	1	still open
	----- Hours obligatory extramural work in Veterinary Inspection <sup>3</sup>	113	0.307	

Origin numerators, denominators:

1: Total as derived in Table 4.1

2: Total as derived in Table 4.2, Subject 5

3: Figures to be taken from Table 4.5

R#	Variables	Values	Denomin.	Range (from SOP 2009)	Notes
<b>R11:</b>	Number of students graduating annually (a)	73.2	1	2.47-1.73	Each student sees 4.891 animals. This value is better than the established range.
	----- Number of food producing animals seen at Faculty (1)	358.0	4.891		
<b>R12:</b>	Number of students graduating annually (a)	73.2	1	2.56-1.02	Each student makes 6.664 consultations. This value is better than the established range.
	----- Number of individual food animal consultations outside the Faculty (2, 3)	487.8	6.664		
<b>R13:</b>	Number of students graduating annually (a)	73.2	1	0.20-0.09	Every student performs 0.318 visits. This value is better than the established range.
	----- Number of herd health visits (3, 4)	23.3	0.318		
<b>R14:</b>	Number of students graduating annually (a)	73.2	1	1.78-0.92	Each student is involved in 7.067 cases. This value is better than the established range.
	----- Number of equine cases (1)	517.3	7.067		
<b>R15:</b>	Number of students graduating annually (a)	73.2	1	0.58-0.37	Each student is involved in 0.615 cases. This value is

	----- Number of poultry / rabbit cases (1)	----- 45.0	----- 0.615		slightly better than the established range.
<b>R16:</b>	Number of students graduating annually (a) -----	73.2 -----	1 -----	48.74- 37.94	Each student is involved in 42.714 cases. This value is within the established range.
	Number of companion animals seen at the Faculty (1)	3126.7	42.714		
<b>R17:</b>	Number of students graduating annually (a) -----	73.2 -----	1 -----	0.07- 0.02	Each student is involved in 0.027 visits. This value is within the established range.
	Poultry (flocks) / Rabbit (production units) seen (2,3)	2	0.027		
<b>R18:</b>	Number of students graduating annually (a) -----	73.2 -----	1 -----	0.75- 0.46	Each student performs 2.063 necropsies. This value is better than the established range.
	Number of necropsies food producing animals + equines	151.0	2.063		
<b>R19:</b>	Number of students graduating annually (a) -----	73.2 -----	1 -----	0.26- 0.12	Each student is involved in 1.872 cases. This value is better than the established range.
	Number of poultry / rabbits (1)	137.0	1.872		
<b>R20:</b>	Number of students graduating annually (a) -----	73.2 -----	1 -----	1.26- 0.89	Each student performs 0.919 necropsies. This value is within the established range.
	Necropsies companion animals (1)	67.3	0.919		

Notes: (a) see Table 9.4; (1) Table 7.3, average; (2) Table 7.4a & 7.4b, average; (3) where applicable use or add information provided in Chapter 7.1.9.2; (4) see 7.1.9.1