

**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 PADUA, ITALY**

**On May 3-7, 2010**

***EAEVE program coordinator***

**Prof Dr. Gert Niebauer; Paris, France**

**EXPERT GROUP**

***Expert visitor on training in basic sciences***

**Prof Dr Joaquin Goyache; Madrid, Spain**

***Expert visitor on training in clinical sciences (teacher)***

***Prof Dr Terence Grimes; Dublin, Ireland***

***Expert visitor on training in clinical sciences (practitioner)***

***Dr Karel Daniel; Osova Bityska, Czech Republic***

***Expert visitor on training in animal production***

***Prof Dr Joao Manuel Ramalho Ribeiro; Valle de Santerem, Portugal (Chair)***

***Expert visitor on training in food safety***

***Prof Dr Miia Lindstrom; Helsinki, Finland***

***Student Member***

***Manuel Sant`Ana; Porto, Portugal***

## CONTENTS

Introduction	3
1. Objectives	4
2. Organisation	5
3. Finance	5
4. Curriculum	6
4.1 General aspects	6
4.2 Basic subjects and sciences	8
4.3 Animal production	9
4.4 Clinical sciences	9
4.5 Food Hygiene & Technology & Public Health	10
4.6 Electives, optional disciplines and “other” subjects	12
5. Teaching quality and evaluation	13
5.1 Teaching methodology	13
5.2 Examinations	14
6. Physical facilities and equipment	15
6.1 General	15
6.2 Clinical facilities and organization	16
7. Animals and teaching materials of animal origin	17
8. Library and educational resources	22
9. Admission and enrolment	23
10. Academic teaching and support staff	24
11. Continuing education	24
12. Postgraduate education	25
13. Research	26
Executive summary	28

**Preamble: the objective of this report is to summarize in concise form observations and conclusions drawn during the on site visit, thereby integrating and completing the SER; information contained in the SER is, whenever possible, not repeated in the report. Therefore, this report should be read with the SER being simultaneously available as reference.**

## INTRODUCTION

Padua is one of the oldest university towns worldwide. It hosts 13 faculties, among them human medicine, pharmacy, agriculture, mathematics-physics & natural sciences and veterinary medicine; in 1992, a new and modern veterinary faculty (FMVP) was created in a prosperous rural area, some 10 km outside the city, sharing the campus site with the faculty of agriculture (*Agripolis Campus*). The school plays a major role in providing veterinary education, disease control and public health services in the economically and culturally important north-eastern tri-state region "Veneto". The faculty underwent its first EAEVE visit in 2000, which was only 8 years after its foundation. Some deficiencies related to caseloads (clinical and necropsy material) and to practical clinical (hands-on) teaching in several species and disciplines were reported at that time; a re-visitation was recommended which took place in 2007. During that relatively recent re-evaluation, many important improvements have been noted, yielding in substantial reduction of problems related to the previous deficiencies. However, large animal clinics still remained an area of concern, preventing approval in the past.

Major changes since the last visit (re-visit in 2007) comprise:

A new teaching syllabus applied since the academic year 2007/2008, which also improved and increased practical clinical training ("Tirocinio" see chapters 4 and 7);

Creation of a Veterinary Teaching Hospital, providing a 24 hours emergency service for companion animals and horses;

In addition, three major buildings, including premises for necropsy procedures were finalized over the years, housing well equipped services which contributed to an approximately 3 fold overall increase of the clinical caseload and a more than 10 fold increase in necropsy procedures.

A substantial increase of permanent teaching staff (90%!), while maintaining student admission numbers, enhanced internal quality control management; increased internationality are other major improvements were done within the past decade.

## **1. OBJECTIVES & STRATEGY**

### **1.1 Findings**

Besides the usual objectives of providing under- and post-graduate education, clinical services, research and innovation, the School's objectives are strongly tailored to regional and public needs, aiming at being or becoming the major scientific, professional and continuing education reference in north-east Italy and the northern Adriatic region. A primary teaching objective is full compliance with and enactment of the relatively new veterinary curriculum, implemented nationwide by law (Ministerial Decree 270) in 2004, superseding an earlier syllabus from 1999. The curriculum, and thereby the School, is in a period of transition since the academic year 2007/2008, when the new law was practically applied. At present, classes of the first 3 years are being taught by the new curriculum, whereas students of the last two years are still following the old syllabi. One major improvement of the new 5-year curriculum is the increase in practical teaching ("Tirocinio"), spanning the transition period from the 2<sup>nd</sup> to the 5<sup>th</sup> year, and comprising 45 learning units (1125 hours of a total of approx. 3300). To navigate successfully through this difficult time of transition and fully adapting on all levels to the new curriculum is therefore an important short-time objective. Other important goals are the progressive enlargement of laboratory and office space by erecting new buildings, increased efforts to foster internationality and expanding the extra- and intramural quality control system.

### **1.2 Comments**

The curriculum transition is well under way; the concept of practical teaching and hands-on learning has been significantly advanced by introducing a novel, enhanced form of the "Tirocinio". A new basic science building (ground floor +2) is going to be built, with construction to begin within the current year (5 million project approved). Efforts to enhance internationality are impressive: a collaboration agreement has been signed with the prestigious veterinary school of the Texas A&M University and within the curriculum an increasing number of lectures are given in English and the Erasmus program is well underway. A University Strategic Plan has been recently introduced nationwide to classify objectively performance. The FMVP ranked in the 2009-2010 evaluation 2<sup>nd</sup>, just a decimal point behind the veterinary faculty of Bologna. Many of the students the team had the chance to talk to indeed feel that FMVP is the best veterinary faculty in Italy.

### **1.3 Suggestions**

Office and laboratory space, especially short of in the basic science, food hygiene and clinical areas should be urgently increased. The building plans should materialize as quickly as possible. The faculty should strongly emphasize the importance of specialization particularly in the clinical areas by increasing the number of Diplomates, residents and interns (the latter, by introducing a rotating internship program).

## **2. ORGANISATION**

The organization, which is described in detail in the SER follows the usual setup of modern veterinary faculties. The school has 4 departments (Veterinary Experimental Sciences; Public Health-Comparative Pathology-Vet. Hygiene; Animal Sciences; Veterinary Clinical Sciences). Attached to the latter is the fairly new Veterinary Teaching Hospital (VTH), and to the former, the Veterinary Teaching Farm, VTF). The Departments, the VTH and the VTF have a substantial autonomy, both administratively and financially. On all levels, there are structured and democratic decision making mechanism installed, yielding in several interacting committees; the Faculty Council is the most important of them. A well organised collaboration on several levels (teaching, research) exists between the faculty, private clinics, farms and the so called “Zooprophylactic Experimental Institute” of Padua (the governmental veterinary state laboratory, featuring large amounts of animal material). This multidisciplinary collaboration on formal contractual basis provides a substantial increase in terms of quantity and quality of clinical teaching.

### **2.2 Comments**

The coexistence of the two faculties (FVMP and Agronomy) seems to work well in terms of space sharing. The impression is left, however, that there is only little or not enough synergetic effect in terms of teaching and research between the two Faculties. Although the autonomy of the Departments is laudable there is little transparency about cross-departmental collaboration and of financial aspects. The number of contracted extramural teaching staff (107) has drastically increased because of augmented teaching load within the “Tirocinio”. This form of practical teaching is not been considered as “full teaching time” by the legislator.

### **2.3. Suggestions**

Enhance interaction between the 2 Faculties as well as within FVMP among the Departments, stimulating synergistic effects. Convince the legislator that practical teaching within the “Tirocinio” shall be valued similar to theoretical classroom teaching; its didactic value should be recognized for promotions and the practical teaching time involved should be remunerated. The group of extramural, contracted teachers who have a voice in DCC ought to be persuaded to attend the meetings on a more regular basis.

## **3. FINANCES**

### **3.1 Findings**

The highest expenditures (6,6 millions) are for salaries of budgeted posts. These publicly funded wages for university staff are nationwide the same. They are structured rather rigidly and, within categories, raises largely depend on employment time only. There is generally no link between performance and salary, with the exception of the academic promotion process. The rest of the budget for running faculty businesses is relatively modest and consists of about 1 million Euro yearly from the University to the deans office. Research grants, funds from the industry and income for services rendered are usually generated and administrated directly by the Departments (and the VTH and the Farm). All external funds are subject to an overhead of up to 12% payable to the University administration (not to the faculty). After

deduction of overheads, income from clinical and diagnostic services rendered and from food and feed analyses is being kept and administered by the Departments. Such income may be used for salaries of contracted staff, research and equipment purchase or maintenance. A small fraction may be used to implement the salaries proportionally of those who were involved generating the income (this applies especially to the clinical area).

Funding for teaching derives mainly from tuition fees; those fees amount to about €1500 per year and student, payable to the University. Of those, only 20% are returned to the Faculty. The average public funds necessary for graduating a veterinarian in Italy (or Padua for that matter) are estimated with €45.000.

### **3.2 Comments and 3.3. Suggestions**

The 5 million € construction project generating space for basic sciences and food safety should have absolute priority (funds are apparently already allocated). Departmental income should be increased wherever possible and financial transparency enhanced: in the clinical areas, for instance, further specialization (Diplomates) will generate more income which in turn may be used to finance residency positions. Residency salaries may also be supplemented by funding from third parties (pharmaceutical industry, surgical and hospital supply companies). We recommend strongly to introduce a rotating clinical Internship programme; such programme, a mixture between postgraduate formation and services rendered, is usually cost effective (e.g. 24 hr. emergency service). The University should split any overhead money with the Faculty; this would allow the Faculty to introduce a flexible and strictly performance-related bonus system. Bonuses should be commensurate with excellence in research and/or teaching. Research funding is proportional to quality; a future bonus mechanism should strongly favor individuals, groups and units generating published research (e.g. annual evaluation of impact factors). Also, a financial strategy should be designed serving as incentive for house-trained residents to join the Faculty (even on non-budgeted posts), once becoming Board-certified. The percentage of tuition fees returning to the faculty should be re-negotiated with the University. Given the fact that the veterinary curriculum is more expensive than curricula in other disciplines (see above), the fraction of 20% should definitely be increased. In this light, a general increase of tuition fees might be considered. Also, the present university policy of “discounting” tuition fees by about 50% for “off course” students seems contra-productive and should be revised; we strongly recommend to implement the opposite: that is, significantly and progressively increasing tuition fees for slow and/or unsuccessful students. Time spent by the faculty in practical teaching within the Tirocinio should find proper recognition and be remunerated accordingly. Successful generation of external funding for the acquisition of major equipment (e.g. Magnetic Resonance Imaging, digitalization of medical imaging, cutting-edge molecular biological equipment) should be valued with priority when integrating with public funds.

## **4. CURRICULUM**

### **4.1 GENERAL ASPECTS**

#### **4.1.1 Findings**

The Curriculum aspects were found as they were described in the SER. The Faculty has implemented an integrated Curriculum with a strong common preparation in Animal Sciences

in the first years, evolving later into two main branches: Clinical Sciences and Food Hygiene. Overall there is a good balance between lectures, practical classes and the Tirocinio.

The Tirocinio is an “hands on” activity where small groups of students (4 to 5), starting in the 2<sup>th</sup> year, are introduced to different professional areas and perform a series of pre-defined tasks under the supervision of faculty (intramural) and of specifically contracted Veterinarians (extramural). Acquired skills are registered and evaluated in a personal logbook.

The degree course is concluded by defending in front of a “thesis committee” a written thesis either as a research work or, more rarely, as a literature review. The degree obtained is “doctor of veterinary medicine” (This basic degree all graduates have to obtain is different from the “Doctor of Research” –“*dottorato di ricerca*” which is a PhD comparable postgraduate degree).

#### **4.1.2 Comments**

The present form of tirocinio was initially received with some reservations, but it is now recognized by students, staff and contracted professors as a good approach in providing students with adequate practical skills.

#### **4.1.3 Suggestions**

Regarding the Tirocinio and despite that a comprehensive set of tasks has been included in the different areas, teaching some practical tasks should still be included: for instance, in surgery, the following practical skills should be added to the students logbook:

- Practical experience in wound management suturing and dressing
- Performing a laparotomy (small animals).

For the moment it seems that Tirocinio activities are running properly but we recommend that in the near future, a self-evaluation procedure, including an assessment of the standards of performance, should be implemented.

Regarding the medium term it could be envisaged that Tirocinio could differentiate students that had already decided their professional orientation so that they could have an extended training on those areas.

The concept of problem-based teaching and learning, which seemed as only being applied in a few areas, should be strongly emphasized across the board.

The concept of research-based teaching should be emphasized much stronger and should primarily be understood as “teaching based on own research” in the first place and only secondly on teaching based on research results of others. We feel that each member of the staff should be encouraged to introduce new subjects relevant to the ever changing fields of research in the respective area and adapted to the needs of the society. These concepts should equally be applied in the elective courses, where appropriate.

The allocation of self-study hours in several subjects lacks transparency and should be checked carefully by the DCC; in some areas, those self-study hours escape any verification or are not formalized.

## **4.2 BASIC SUBJECTS & SCIENCES**

### **4.2.1 Findings**

Basic Subjects form part of the “in-house” curriculum and are not taught elsewhere. Basic Subjects (116 hours/14 UCL) and Basic Sciences (876 hours/88 UCL) account for about 30% of the core curriculum (3,331 hours). They seem to be adequately taught and are not excessive, since most of the Subjects contained therein are taught with a veterinary orientation, both in content and in practical work. Moreover, Tirocinio which starts already during the first year with the subject “Veterinary Parasitology” and continues during the second year with “Veterinary Microbiology”, serves as link between basic sciences and the topics taught later.

Students enrolled arrive with dissimilar educational backgrounds (classical, scientific or technical education). As a result, basic courses must be offered to adjust for these differences. These basic courses are provided by the Faculty prior to the beginning of the core courses, that is before the start of first year classes.

The level of practical work offered depends on the subject and reaches up to 56% in some areas with a reasonable hands-on participation of the students. Some subjects do not offer any practicals (see SER) The number of students per group in practical work ranges, depending on the availability of staff, facilities and equipment, from 4 to 35 for each instructor.

In general, students have free direct access to teaching materials through the intranet. Some teachers use e-learning tools (e.g. the free web application *Moodle*). Another positive aspect of Basic Science teaching is that most faculty involved are veterinarians, focusing on pre-professional orientation of these subjects, particularly for practical work.

Hygiene, security and waste disposal appears to be adequate. Arrangements for disabled students are appropriate.

### **4.2.2 Comments**

The curriculum includes the major basic subjects required for veterinary training. However the level of knowledge of students enrolling the first year is highly variable. This means that foundation teaching in the basic subjects (“Bridging courses”) has to be provided by FVMP. This is effectively done but constitutes an additional burden.

The most important items of the basic disciplines are adequately and enthusiastically taught. Although there is a good coordination within the basic subjects, increased teaching integration would be of benefit.

### **4.2.3 Suggestions**

The proportion of coursework of practical nature should be increased in some subjects.

The organization of core teaching in the traditional independent subjects should be revised with the aim of enabling and encouraging interdisciplinary teaching.

In the largest practical groups, the need of a second supervisor should be considered.

## **4.3 ANIMAL PRODUCTION**

### **4.3.1 Findings**

The University has a Farm very close to the Veterinary Faculty (walking distance) oriented for teaching of practical courses and the Tirocinio. Most of the tasks included in the Animal Science component of the Tirocinio take place at the University Farm. The farm houses a variety of breeds, especially bovine, some enrolled in a programme for protection of endangered species but also species and breeds for teaching purposes.

### **4.3.2 Comments**

The Curriculum provides a good preparation of the students on healthy food animals, herd management and production systems. There is also a good balance between theoretical teaching and practical's.

The students exposed at the farm to most types of forages, mainly hays and silages, and follow their production and conservation process. Also, they perform practical exercises with feed ingredients, formulation, preparation and distribution of diets for food and companion animals.

The teaching of forensic and state veterinary medicine covering the principles of certification with regard to animal transportation and animal welfare is included in the Tirocinio.

### **4.3.3 Suggestions**

The team understood the importance of the rabbit and poultry Industry for the Veneto region and supports the Faculty's intentions to enhance the practical training in those species.

We also suggest that in the future, the curriculum should reflect the increased exposure to those exotic species with which the practising veterinarian is increasingly confronted.

## **4.4 CLINICAL SCIENCES**

### **4.4.1 Findings**

The VTH is a modern facility, well equipped for small and large animal medicine & surgery, diagnostics and treatments. The faculty and its teaching is still largely discipline oriented. Species orientation is developing but is presently only functioning at the more junior staff level for the reproduction courses. There are adequate exam rooms for small animals, surgery suites, exam stands for horses and cattle, surgery suites for horses divided into clean (orthopaedic) and dirty (colic) surgery. There is monitoring equipment and a clinical laboratory, available round the clock. Diagnostic imaging consists of traditional (non-digital) radiography, ultrasonography, a CT-scan and scintigraphy. There are proper recovery facilities with intensive care and animal housing for small and large animal patients. Isolation units with appropriate aeration and waste management are available for small animals as well as for large. A 24hr emergency service has been established in a dedicated building next to the hospital facilities; this unit is equipped to allow also surgical procedures for small

animals, recovery and intensive care as needed. For equine emergencies, a stand-by on-call system has been developed. A mobile clinic is also operative. Students participate hands-on in all clinical activities. They are covered by liability insurance, even when driving their own cars.

#### **4.4.2 Comments**

The VTH are adequate at the moment but definitely need enlargement if case load (in small animals) and student numbers increase. As this is a desirable development without increased space, proper growths will not be possible. That applies also to office space for faculty (many small offices are shared and over-crowded). If residents and interns are added to the staff, the room situation will become unacceptable. The most desirable further specialization (Diplomates, residents) will help in the transition from discipline to species oriented teaching. In the large animal surgery suite, the anesthesia equipment was found unusable; this reflects the relative small numbers of equines operated within the VTH. However, this problem based also on the high competition from excellent outside practices has been well compensated: private equine clinics in the vicinity, having large and diversified case loads, have been contracted for teaching. The team visited such clinics and confirmed regular hands-on teaching activity. All teaching, including essential manipulations and skills acquired are being logged in the "Tirocinio" student's individual logbooks and signed by both the teacher and the student. The system works well; in fact, students have the option not to countersign any particular item if they feel that they haven't acquired the necessary skill. Then the teaching procedure is offered again. Practical teaching in all species and in all clinical subjects fulfills the required standards. There is however one week area and that is theoretical (and less practical) teaching in Internal Medicine. Methods used seem not to be sufficiently research-based with poor integration into other subjects and are not student friendly. There is also an unusual high failure rate in the final exam of this subject.

#### **4.4.3 Suggestions**

There is a plan to create new space for clinical facilities and offices in the foreseeable future. Also there should be an attempt to incorporate physically the premises of the emergency service into the building of the VTH. The specialization with residency programs and rotating internships must be a priority. The modernization (digitalization) and the enlargement of the (MRI) diagnostic imaging should be envisaged. soon The relatively new VTH must soon be undergoing an auto-evaluation in the frame of an audit or peer review. In the context of such review, focus should be placed specifically on Internal Medicine and effective measures should be design to correct the possible problems of this area. The listing of required procedures and skills in the student logbooks should be reviewed progressively and completed accordingly (see also our comment regarding surgical skills – 4.1.3).

### **4.5 FOOD HYGIENE & TECHNOLOGY AND VETERINARY PUBLIC HEALTH**

#### **4.5.1 Findings**

The relative amount of food hygiene-related hours in the old curriculum is 10.48% (SER p. 64). The food hygiene course in the new curriculum consists of core subjects (Hygiene and technology of food of animal origin 7 ULC, Inspection and control of food products of animal origin 8 ULC, Tirocinio 5 ULC) corresponding to 20 ULC, thus making 6.7 % of the total

curriculum. The only planned elective course (Technology of food processing) for the new Food Safety Educational pathway corresponds to 2 ULC, making it 7.3 % of the total curriculum, which is less than in the old curriculum

Practical training takes place both on-site and externally. Internal on-site training includes post mortem inspection training on carcasses and organs in the necropsy room and a four-day training in small groups (4) in the Department of Public Health, Comparative Pathology and Veterinary Hygiene research laboratory, the latter being part of Tirocinio (1 ULC) and including microbiological analysis of foods. Such training is limited to 4 days and seems not sufficient to provide the students with the desired skills in analyzing different food products and food pathogenic or spoilage bacteria

External training includes 4 ULC of Tirocinio with training in cattle, poultry, swine, and rabbit slaughterhouses and various kinds of processing plants and regional health agencies under close supervision of veterinarians. As part of their Tirocinio, students visit dairy, fish, meat and poultry plants and follow the veterinarian and carry out inspection under supervision. A visit to three different meat processing plants and interviews showed that the contracted teachers are highly skilled and enthusiastic not only in their duties but also in supervising the students.

#### **4.5.2 Comments .**

Decreasing the proportion of food hygiene-related teaching in the entire curriculum does not follow the trends in society or the development in the local food business, and is thus not a recommendable development to be followed.

The available microbiology laboratory is very small and cannot properly accommodate students, research and support staff. Plans for moving the Department of Public Health, Comparative Pathology and Veterinary Hygiene and Department of Experimental Veterinary Science into a new building in 2013 exist. This will allow for more space in these areas of teaching. Also, increasing the food microbiology laboratory space should be seriously considered.

The food hygiene staff, although small in number (1 full professor and 0.5 associate professor for teaching in the veterinary curriculum), are enthusiastic in their work and have been able to attract a large number of undergraduate students to complete their final thesis on key research questions in the field of food hygiene .

The food hygienic research seems to benefit from the dynamic atmosphere in the Department of Public Health, Comparative Pathology and Veterinary Hygiene. The Department has been able to attract a substantial amount of external research funding and a critical mass of talented researchers, and has systematically built a strong research environment with modern equipment and analysis tools. With this strong support as background, food hygiene research should be further developed to provide a sound basis for research-based teaching.

The food inspection education is mainly focused on ante and post mortem analysis but should cover better the inspection of the in-house control, HACCP, GHP, and quality assurance systems as well as microbiological and chemical analysis of foods and water.

The teaching and research staff are enthusiastic but few considering that the majority of them are involved in organizing and teaching other degree courses as well.

#### **4.5.3 Suggestions**

It is presently not entirely clear how the two different curriculum branches of the new “Y” configuration will be constructed, but it is evident that the number of food hygiene-related teaching, both core, elective and optional courses, needs to be substantially increased. Areas to be covered both theoretically and practically include a thorough microbiological and chemical analysis of foods, HACCP and GHP systems and their application in in-house control and quality assurance systems; microbial food spoilage; microbiological, chemical and molecular epidemiological analysis of foodborne bacteria and foods; principles of training of personnel working in the food chain.

The supervision in slaughterhouses, where all students train for several days, is mainly focused on ante and post mortem analysis but should also cover risk-assessment and the inspection of the in-house control, HACCP, GHP, and quality assurance systems.

The group has also established excellent contacts with the local food industries, which is a clear advantage in organizing high-quality practical training.. These contacts could also be exploited to establish research projects and to promote researcher training in the field of food hygiene.

The existing collaboration with the local food industries, the excellent research environment at Department of Public Health, Comparative Pathology and Veterinary Hygiene, and the zooprophyactic institute should be increasingly exploited to further extend analytical skills and to attract external funding for food hygiene research. .

Moreover, a closer collaboration with the neighboring Zooprophyactic Institute would benefit Tirocinio training as well as researcher training

To strengthen food hygiene research, to better promote research-based teaching, and to ensure skilled and active food hygiene staff also in the future, research activities in the field of food hygiene should be further increased.

Upon moving of the Department of Public Health, Comparative Pathology and Veterinary Hygiene into a new building in 2013, the food microbiology laboratory space should be increased.

The number of staff available for teaching and research should be increased.

### **4.6 ELECTIVES, OPTIONAL DISCIPLINES & OTHER SUBJECTS**

#### **4.6.1 Findings**

Experience (since 2 years) has shown that both paths in the ‘Y’ configuration of the new curriculum seem to be attracting nearly equal numbers of students. See also 4.5.

There is a lack of elective or optional courses orienting the students to scientific research, in general.

#### **4.6.2 and .3 Comments and Suggestions**

We feel that each member of the staff should be encouraged to introduce new subjects relevant to the modern scientific community and the society This could start as an optional subject moving into an elective one if appropriate.

The elective courses should include modern research methods to better prepare students for a research career and to promote their scientific thinking and understanding of the scientific basis of our profession.

.In large animal sciences, teaching of “podology” should be included.

The teaching of Bioethics (optional subject) should be increasingly integrated with other curricular subjects.

### **5. TEACHING QUALITY & EVALUATION**

#### **5.1 TEACHING METHODOLOGY**

##### **5.1.1 Findings**

Different committees provide teaching directives, above all, the Degree Course Council (DCC). Basic principles are in compliance with the “Bologna Declaration” and the recommended “day-one” skills of graduates. There is an acceptable balance between theoretical classroom teaching and practical teaching. Most classroom attendance and all hands-on teaching is mandatory with the presence being checked. This of course applies only to the so called “in course” students who are properly advancing; the problem of large numbers of “off-course” students still remains. Learning material is being either provided by the teachers (lecture notes, e-learning through Moodle), or text books are being suggested. Some ULC’s in classroom teaching consist of a considerable amount of self-study hours. It was not always clear, however, how well such hours are being used and monitored. Practical hands-on teaching has gained a different dimension by introducing the “Tirocinio” (45 ULC = 45x25 hrs supervised in groups of generally only 4). Exposure to all common animal species (companion and food animals) is satisfactory. Teaching of pathological anatomy and food hygiene on carcasses and organs is also well done. Herd health management through the ambulatory clinic and visits at contracted farms is also regularly been done during the Tirocinio. The 24 hr emergency service with intensive care attached to it offers additional opportunities to gain practical experience.

Internationality is being fostered in-house by occasionally using the English language in teaching. However more of that should be done especially to facilitate international student exchange. One excellent initiative is the recently enacted bilateral exchange agreement with the Texas A&M University. It should be also mentioned that the vast majority of teaching staff is well motivated and that the students we interacted with all showed enthusiasm and pride to be members of the Padua faculty.

### **5.1.2 Comments**

Excellence in teaching is not sufficiently rewarded. Especially the many excess hours of in-house Tirocinio teaching are not remunerated. The evaluation system of teaching is either inefficient or results of such reviews have insufficient impact.

The welfare and safety of students is being properly addressed by the faculty. Buildings are equipped with proper safety equipment as well as the laboratories. Following legal enforcement students are not exposed to radiation. The new curriculum provides compulsory training on health and safety before students are introduced to laboratory, necropsy or clinical hands-on training.

Students rely heavily on public transport to get to the faculty and the school does not provide any transportation service. When extra-mural training is involved, students have to travel using their own means and at their own expenses. Because of the relative low number of students involved, this was not seen as a setback.

The teaching-learning quality assurance system, established by the University of Padua is seen to promote the improvement of educational standards.

### **5.1.3 Suggestions**

Problem-oriented teaching should be stronger emphasized, especially in the clinical areas. Insure that student evaluations impact positively or negatively on changes in the curriculum and on evaluation of didactic skills of teachers. Offer or demand didactic continuing formation of staff where needed. Reward teaching excellence and remunerate properly teaching hours in the Tirocinio.

The so called “front-office” for students has reduced opening hours; the opening hours should be extended reasonably. in accordance with the students needs.

The e-learning system should be developed further and an “Audiovisual Center” should be created and staffed.

## **5.2 EXAMINATIONS**

### **5.2.1 Findings**

To obtain the graduate degree in Veterinary Medicine students must accumulate at least 300 credits (ULC) and pass all examinations (30) as well as generating and successfully defending a thesis. The maximum number of major exams cannot be higher than 30. This is regulated by National law. Each professor can freely decide on the format of the exam, however, the format needs approval by the DCC. Some professors use a specific continuous learning assessment, the e-instruction’s Classroom Performance System (CPS™ - an electronic individualized clicker). Final and major examinations take place in the presence of a Committee appointed by the dean. No external examiners are invited. In the new curriculum, at the end of 1<sup>st</sup> year students must have obtained 40 credits to be allowed to enroll into the 2<sup>nd</sup> year. Due to National regulations, students have five opportunities (exam periods) to sit for the same subject within an academic year and there are no limits in the number of retakes allowed.

### **5.2.2 Comments**

Both teaching staff and students seem to be satisfied with the present examination format.

The reduction (by law) of the number of exams (30 within the entire curriculum) necessitates an association of subjects within the same exam, with sometimes little connection between them.

The relatively high number of “off course” students, although a national phenomenon, constitutes a considerable burden on the system.

Some exams in some subjects (especially in Internal Medicine) have an unusual high failure rate.

### **5.2.3 Suggestions**

Despite National legislation, further and more efficient measures should be taken to avoid students being inactive for excessively long periods. Limiting the number of exam retakes, would contribute to solve the problem.

An initial assessment of the Tirocinio should be considered soon (self-evaluation, quality assurance).

The DCC should analyze statistically exam results and should investigate and take corrective action of procedures (teaching-learning-exam methods) in subjects with consistently high failure rates. This seems to be especially applicable to “Internal Medicine”.

## **6. PHYSICAL FACILITIES & EQUIPMENT**

### **6.1 Findings**

The FVMP is located within the Agripolis Campus, which also includes the Faculty of Agriculture and a Regional Agency for the Agricultural, Forestry and Agri-food sectors. The site also includes the University Farm, with both production and teaching animals, which is located within walking distance from the Veterinary Faculty. Two important research institutions operate in close proximity of the Agripolis Campus: the Zooprohylactic Experimental Institute and the “Veneto Agriculture” (Regional Institution for the Agriculture, Forestry and Agri-food sector involved in Research and Experimentation and Services for Rural Innovation and Development) . The Agripolis Campus is a fully fenced complex composed of 9 independent buildings devoted to teaching, research and administration, even though the majority of offices, clinics, and laboratories of the FVMP are housed in a complex of 4 buildings, known as the “Veterinary Complex”.

The Agripolis Campus was completed in the early 1990’s, and most of the buildings of the Veterinary complex (the Clinical Department Building, the Necropsy Building and the Animal Ward Building) were completed towards the end of 2000 and became operational in 2001. A new building (already approved and financed) will be constructed and operative within five years right next to the Public Health Building.

The majority of clinical activities take place in the Clinical Department Building, where clinical examinations, day-hospital and surgical procedures are normally performed during week-

days. Large animals are hospitalized in the Animal Ward Building, while small animals are hospitalized in the 24-hours Service Building.

There is no slaughterhouse and/or food processing plant facilities on the Agripolis Campus. Students are sent out to various public or private companies dealing with food hygiene and food technology.

Most teaching facilities (classrooms, study halls etc.) are located in the two buildings known as “Pentagon” and “Ca’Giulla” and are shared with the Faculty of Agriculture. On campus there is also the “Veneto Agriculture” (Regional Institution for the Agriculture, Forestry and Agri-food sector, involved in Research, Experimentation and Services for Rural Innovation and Development) and nearby situated is the Experimental Zooprophytatic Institute where practical teaching is also taking place and which institution the students can also choose to perform their final thesis.

A 24-hr Emergency service is available for small animals and horses.

All classrooms have a wireless or cabled internet connection.

## **6.2 Comments**

The premises in general are in good condition and are easily accessible, for both the students and staff. They benefit from being on their own campus out-of town, but the location of the Agripolis Campus (10 km far from downtown Padova) would be a problem in order to increase the small animal caseload.

All lecture rooms, laboratories and dissection and necropsy halls are perfectly adequate for the present number of students. The isolation facilities are well designed to ensure adequate bio-security in both small and large animals.

Nevertheless, the buildings where clinical undergraduate teaching is performed are not adequate in space. There is a general lack of office space on the second floor of the Clinical Department Building which has reached its maximum capacity with most offices hosting 2 and sometimes 3 staff members. PhD students and (so called) interns are crowded in one room.

The VTH is a small structure that should be enlarged in the foreseeable future. However, the VTH is well equipped and adequate for the present clinical caseload. The recently opened 24-hours emergency service is a key factor for the practical training of the present and future students. This service is housed in a separate building, some 100 m distant from the VTH, which makes transfer of non-ambulatory animals somewhat difficult.

In most cases health and safety matters are well solved, but some specific safety signs are missing and, sometimes, it is quite difficult to pinpoint some safety devices, although they are available. It is positively noted that students have to take a mandatory course on “Instructions for Personal Safety” in order to be allowed to access premises and laboratories for practical work. Once the student has successfully taken the final written test, the Dean’s office produces a certificate which the student has to show prior to initiating any kind of practical activity.

The FVMP has 2 small vans (ambulatory clinic) that are mainly used for outside visits with students, particularly during the 5th year for the clinical rotations of Tirocinio or for dissertation projects; however most students prefer to use their own vehicle for field visits.

The initiative to have contracted professors allowed the students to contact with commercial farms, food production plants, slaughterhouses etc. which was of great benefit for the practical and quality of teaching. The good cooperation with the Veneto Region and the Experimental Zooprophylic Institute is increasing the opportunities for practical classes, thesis and research work.

### **6.3 Suggestions**

There should be a funded program for routine maintenance of the buildings and facilities of the FVMP.

The construction of the new building must start as planned and without delay.

The VTH needs a real pharmacy where all necessary medicines for the treatment of hospitalized patients are available.

Laboratory space is marginal or insufficient, mainly in basic sciences, food microbiology and in the teaching hospital (there especially when patient numbers and students enrolled do increase); therefore current plans for extension must be implemented immediately.

Although the faculty goes through great efforts assuring appropriate hygiene and good scheduling, it is highly undesirable that systematic anatomy, pathologic anatomy and food inspection teaching on organs is accommodated in one single facility and we recommend that future building includes separate and dedicated facilities.

## **7. ANIMALS & TEACHING MATERIALS OF ANIMAL ORIGIN**

### **7.1 Findings**

#### **Animal Production Area**

Students perform practical training in food-producing animals (farm animals) with regards to breeding and genetics, morphological evaluation, nutrition, rearing techniques and animal welfare, on live animals both within the University Farm and contracted farms. In addition, animal shelters are also included in cooperative agreements to allow students to carry out practical activity on nutrition and management of dogs and cats as well.

All the students spend at least 2 weeks of their Tirocinio at the University Farm to practice handling of different farm animal species and to learn heard and farm management. The agreement of the FVMP with external farms and facilities offers the students opportunities to enhance practical activity and to apply the knowledge acquired during the training performed at the University Farm. Teaching animals available at the University Farm are summarized in SER - table 7.2.2. while table 7.2.3 indicates the number of agreements signed by the FVMP with external farms.

## **Food Hygiene/Public Health**

During the 2nd year, when attending the course of Food Hygiene and Technology, students are taken out on whole-class trips to visit 2 food producing plants. During the 7th semester students attend each week 2 hours of practical demonstration in the necropsy hall( cadavers, organs, poultry carcasses, mollusks and fishes). Viscera affected by the most frequent lesions found at meat inspection come from many slaughterhouses of the Veneto Region. In addition to on-site training of commercial products and organs. Visits to meat and dairy factories and to SHs are also performed to allow students to verify the HACCP system in the control of food hygiene.

During Tirocinio in food inspection (see also chapter 4), 5th year students work in groups of 4 in the laboratory of Food Microbiology, following and being actively involved in the normal routine of microbiological examination of food; at the same time, the students are stimulated to draw an inspective judgment on the basis of the analytic results found during the food analysis. Subsequently, students are sent to one of the SHs or food PPs of a Regional Public Health Agency where they practice food inspection under the supervision of State Veterinarians who are contract professors at the FVMP ref. SER - Table 4.1.12. Students work directly at the food chain, inspect fish markets, check milk and food processing plants, food stores etc. Each 5th year student has to do a total of 7 ULC of Tirocinio in food inspection and Public Health.

## **Consultations and patient flow service**

The Veterinary Teaching Hospital (VTH) is currently open for 50 weeks throughout the year for five days a week. Consultations are from Monday to Friday, from 8.00 a.m. to 6.00 p.m. The consultation service is based on appointments. An emergency care is active both during consultation hours as well as during nights and week-ends. During the year the consultation service is closed one week in August and one week in December. A complete description of services operated on a daily basis within the VTH is referred in chapter 6.6.5 of the SER. All services are available for both small and large animals.

The number of animals visited at the VTH is summarized in SER Table 7.3. A significant growth in the total number of animals seen at the VTH occurred over the last nine years (SER - Figure n° 7.1). Animal species include dogs and cats as well as large animals, mainly horses and bovines. Ovine and caprine, small lagomorphs and some exotic animals such as camelids and small reptiles (turtles, iguanas) are sometimes presented to the VTH for clinical examination. With regard to total number of cases, it is well known that each animal can serve as more than one case, both because more than one condition may be present, but also because a patient may constitute a case for the internal medicine rotation as well as for the surgery rotation (if the condition becomes untreatable) or for the anesthesia and ICU rotation, the diagnostic imaging rotation etc.

A small number of large animals including 3 horses, 1 donkey, 2 calves, 15 sheep, 15 mini-pigs, 4 llamas and 7 alpacas are presently housed at the Faculty premises for research or teaching purposes. These animals are generally cared for and followed by students (5th year rotations and students on night and week-end duties). They are typically used during lectures (clinics and animal production) to demonstrate various non-invasive procedures of clinical examination, physiological functions related to nutrition and feeding, and animal behavior.

The mini-pigs are used for experimental cardiac surgery within a research project in collaboration with the Medical School of the University of Padua.

Students are actively involved in the handling of animals, in performing sedation, intubation anesthesia, in helping the chief surgeon as well as in the recovery phase.

The FVMP has also signed an agreement with a private equine hospital (Centro Medico Equino), where student spend a week of their Tirocinio of equine practice following clinical cases, attending surgeries and learning the most common procedures of equine medicine and particularly equine emergency surgery. During 2009, the Centro Medico Equino has seen 477 horses ref to SER Table n° 7.3.1

A small truck is available to carry sick animals to the FVMP. This vehicle is mainly used to transport bovines and equines. It can carry up to two adult horses and it is normally used for outside calls. All instruments for a field-based clinical visit can be transported and animals can be visited outside the Faculty or transported to the VTH. Two other small vans are available (Ambulatory clinic). These cannot be used to transport live animals but are mainly used for outside visits with students, particularly during the 5th year for the clinical rotations of Tirocinio or for dissertation projects. When visiting farms students are always accompanied by a teacher. Also PhD students can use these vehicles to follow their own projects and reach research or field facilities. Private owners will often transport their own animals to the Faculty; this happens particularly with horses (but also with South American camelids or small ruminants) coming from within or outside the Veneto Region.

### **Emergency Service**

An emergency service is also active during regular consultation hours. This 24-hr emergency service has been activated in March, 2010. It is staffed by 1 veterinarian and 2 students who are on duty from 6:00 pm until 8:00 am of the following day, providing also intensive care for patients undergoing surgery during the day or needing continuous care for medical reasons, as well as answering small and large animal emergency calls from outpatients. Faculty surgeons are on standby (on call) to perform emergency procedures when needed.

### **Ambulatory (Mobile) Clinic**

At the FVMP, a mobile clinic is available for education regarding food animals and horses. Such a service has been organized gradually over the years by signing a number of agreements mainly with dairy, beef and small ruminant farms, and by hiring as full time staff an Assistant Professor who has managed to maintain a few key equine clients with whom also formal agreements were signed. For food animals, staff regularly visits the farms to support health managements and reproduction. For equines, during the breeding season, the staff members provides a regular service and emergency service on nights and week-ends for foaling or neonatology problems. Students always go out both to the food animal farms as well as to the equine farms and stud centers. These outside visits are performed with either faculty or private vehicles, carrying material for standard specific procedures and sampling. When surgery or diagnostic imaging aids are necessary, animals are transported to the Faculty.

SER - Table n° 7.4.1 portrays the total number of informal and formal, commercial-type agreements which the FVMP has currently signed with veterinarians, farmer's associations and also directly with cattle breeders. Through these agreements faculty members from the

Herd Medicine Service regularly bring groups of 3-4 students out on field trips At least 2 farms are visited on any given field trip,

BOVINES – In 2009, a total of 1443 animals (both adult cows and calves) have been visited and/or controlled directly on farms. All students are involved in handling animals, performing physical and collateral examinations as well as doing the follow up of each case.

The Department of Veterinary Clinical Science has a contract with several bovine farms for the surgical treatment of perineal hernia in calves: this surgery is performed on the farm directly by the students In 2009, field trips have been performed to 38 dairy farms and 5 beef bulls farms. During this activity 2016 samples of biological material were collected .This activity has led to 8 thesis and some publications.

SMALL RUMINANTS and CAMELIDS - Similarly to cows, formal agreements have been established by the FVMP.

SWINE – A total of 9 swine farms are currently being visited by students on Tirocinio for swine practice ref. to SER - Table 7.4.2. Students perform castration and vaccination of piglets, and artificial insemination, estrus detection, blood sampling etc (SER Table n° 4.1.12); the average number of cases seen on any day is 55. The following 2 days are spent travelling to the other 8 farms (SER Table n° 4.1.12), where student perform ultrasonographic pregnancy diagnosis, infertility investigations, field necropsy, and learn how to handle and use drugs as well as counsel pig farmers on productivity problems. The average number of cases seen in the two days is 110. Surgical procedures are performed either by the students or by Faculty staff only when expressly requested by the farm owners.

EQUINES – Besides the agreement with the Equine Hospital, where all students have to spend at least one week, the FVMP has a formal agreement with two equine breeding stud centers, and an Assistant Professor in Reproduction providing a 24-hr mobile clinic service during the breeding season through which approximately 40 mares and/or foals are followed up ever breeding season. Group of 4 students are regularly taken out during the Equine Reproduction Tirocinio which takes place during the breeding season (all students have to rotate through this Tirocinio during the breeding season).

Table 7.4.2 of SER reflects a list of procedures performed during the last 5 years at the above 2 equine breeding stud centers. Students typically spend 3 days/week working at breeding studs and are actively involved in performing each and everyone of the above-mentioned procedures.

### **Miscellaneous information**

Staff members in reproduction have established informal agreements with municipal shelters of the Veneto Region. In one of these shelters (Selvazzano, Padova), the teacher brings the students for practical works within the course of Clinics in Reproduction. Students in groups of 8-12 spend the entire morning or afternoon visiting dogs, practicing animal restraint, performing vaginal or preputial smears, transabdominal palpation of the uterus, transrectal palpation of the prostate, and also blood collection whenever there is such a need. Such practical works are organized at the end of the course of Clinics in Reproduction, between December and January each year. In two other shelters (Monselice and Rovigo) one other teacher in reproduction brings the students in groups of 4-5 to give them an opportunity to practice spay/neuter of dogs and cats; students are actively involved in performing

anesthesia and doing the surgical procedures hands-on. On any given day, the above 3 shelters have an average of 60 dogs, 50 dogs and 60 dogs + 40 cats, respectively.

The case recording system is centralized on intranet which uses a commercial password-operated software specifically designed for veterinary use, called EasyVet. Upon admission, each patient receives a case record number, and name and address of the owner are recorded by a receptionist. The Easivet software is available on computers throughout the Hospital.

Exotic species from private owners or zoos has prompted a steady increase in the number of clinical cases and necropsies of those species.

## **7.2 Comments**

The ratios of animals available for clinical training (R11, R12, R13, R14, R15, and R16) are well above the reference values presented by EAEVE. Only in the case of poultry and rabbit (R17) the value is just below the reference value, but the Faculty justifies this case with the specific conditions of those production systems. Despite a relative abundance of poultry and rabbit farms, these enterprises very rarely accept students into their premises for sanitary reasons. The FVMP has employed a new staff member whose main task is related to poultry and rabbit diseases. Her activity has led to the establishment of some formal agreements with local poultry and rabbit breeders which have become part of Tirocinio activity (ref. SER Chapter 4).

The number of organs and carcasses for practical teaching has increased significantly. Ratios of animals available for necropsies (R18, R19, and R20) are well above the reference values. .

The extra mural practical work provided by the Tirocinio with the contribution of the contracted professors exposes students to many commercial farms as well as to meat and fish inspection plants. The previous problem related to practical animal clinical cases load has been improved and the team sees no reason to recommend a deficiency on those areas. The amount of material of animal origin for teaching has been significantly increased and is now satisfactory, Also the Hospital, the 24 hrs emergency service and the mobile clinic provide a substantial number of clinical cases for teaching.

The University of Padua decided not to authorize experiments with live animals for teaching purposes, therefore just healthy animals are shown to students, and treatments are only performed as needed to cure.

## **7.3 Suggestions**

Further efforts should be made to increase the case loads in large animals, despite the successful efforts to install a mobile clinic and to make arrangements for extra mural teaching in those areas.

Clinical staff should attend (in the necropsy hall) whenever possible together with students necropsy of animals who died in clinics. The number of necropsies done in large animals should be increased.

## **8. LIBRARY & EDUCATIONAL RESOURCES**

### **8.1 Findings**

The “Pietro Arduino” Central Library is shared between the Faculty of Veterinary Medicine and the Faculty of Agricultural Science. It is open on weekdays from 8.20 till 18.00. Contrary to the information provided by the SER, the Library Director has informed us that this unit is now open on Saturday mornings (till 12.00).

The Library Board is the structure responsible for the coordination of the library and meets twice a year. It is made up of 10 members including one representative of the veterinary professors and also one representative of the veterinary students.

Books can be loaned for 30 days. Books are classified using the international Dewey decimal system and are easily assessed on-line using the AIRE Portal. However, the arrangement of the books on the shelves is difficult to understand and the number of up-to-date books was seen as insufficient.

The library uses an electronic catalog (CAPERE) which offers an extensive list of electronic journals relevant to the field of veterinary science. Some short comes, however, were seen: several leading journals (Vet Rec, JAVMA and Eq Vet J) are not available electronically although printable versions are available *in situ*. On the other hand, the journal Vet Clin Path is available both in print and electronically, although it fails to be included in the Electronic Database. Recognizing the fact that students tend to rely primarily on electronic resources, these could be points for improvement.

There are no official departmental libraries. But because some Professors have their own personal departmental libraries, they are asked to report to the library whenever they acquire new books or start a subscription of a scientific journal. In this way, the library staff can register those resources in the system and make them available for the students.

### **8.2 Comments and 8.3 Suggestions**

The library does not seem to have received significant improvements since the previous visit (2000). Reading seats are insufficient and, with only a few exceptions, do not provide adequate work environment. The report from the previous visiting team already stressed willingness by the faculty to extend the opening hours of the library but little has been done and students do not seem to be aware that the library is now open on Saturday morning.

Our recommendation is that it would be much more helpful if the library could extend its services at least one hour every day, perhaps from 18.00h till 19.00h. The number of up-to-date textbooks available for loan, especially in English, should be increased in all areas. The overall organization of the library resources could be further improved, especially in the light of an adequate number of personnel..

## **9. ADMISSION & ENROLMENT**

### **9.1 Findings**

A five years high school diploma (baccalaureate degree, maturity) is required for admission to Italian Universities.

The enrolment of new students to Italian Veterinary Medicine Faculties is being regulated by a *numerous clausus* system. Each Faculty Council proposes to the University Academic Senate, a specific number of study places, based on the teaching potential available in the Faculty and the prevailing prospects for professional employment. The University Academic Senate communicates those data to the Ministry of Universities and Research which decides whether or not to accept the proposal. Final decision for each faculty is published in the official Journal.

An admission test must be taken in order to enroll in Veterinary Medicine. The national admission test is administered by the Ministry of Universities and Research. The test is composed of 80 multi choice questions with 5 possible answers to choose from.

The students enrolled at the University come from different education backgrounds and to overcome this, the Faculty provides a basic course to the 1<sup>st</sup> year students to adjust for those differing educational backgrounds.

### **9.2 Comments**

The total number of new students accepted into Veterinary Medicine degree courses in Italy has been progressively reduced over the last few years with some Veterinary schools remaining to levels similar to the past as it is the case of Padua.

Amongst Italian Universities, the University of Padua is one of the most selective as only 13% of the students sitting for the Veterinary Medicine admission test were able to enroll in the academic year of 2009-2010 (that is 80 admissions).

The questions on general knowledge and logical thinking (40/80) are decisive in determining a students final score.

The current selection mechanism may be inefficient as it may not necessarily select the best students for clinical veterinary skills, although it might more effectively screen students with research interest.

### **9.3 Suggestions**

We are aware of National Legislation but we nevertheless recommend that the admission examination is adapted to better meet the special needs of Veterinary Medicine.

We also recommend limiting the admission number to current levels until physical facilities are appreciably increased and number of teaching staff is augmented.

The total number of 14 foreign students (non-EU) is relatively low (14 of 524 total) and could perhaps be increased.

## **10. ACADEMIC & SUPPORT STAFF**

### **10.1 Findings**

The total number of teaching staff is at present 85 (18 Full Professors, 19 Associate Professors and 48 Assistant Professors). For the supervision of the Tirocinio 107 veterinarians have been hired as "Contract Professors". The teaching staff is allocated to the different Departments but as far as teaching is concerned they report to Faculty committees. The main task of the Departments is to perform research and to provide services.

Veterinarians represent 70,4 % of the academic staff and all the teaching staff whereas in the Clinical Department all teaching staff has a veterinary degree. European Diplomates are relatively few. Residency programs are therefore much underdeveloped. A rotating clinical internship has not been introduced.

Academic positions are assigned only through a national selection procedure, and promotions occur through the evaluation by the National Public Committees based on availability of open positions and the teaching and scientific activities of the candidate.

The number of supporting staff in 2009, in terms of Full Time Equivalents (FTE), is 57,7.

### **10.2 Comments**

The recent increase in teaching staff number (45 in 2000 to 85 in 2010) is appreciated and fulfills ratio requirements, however, the rise in supporting staff was not commensurate. In fact, supporting staff numbers were 41,5 in 2006 and are now 57,7 FTE.

### **10.3 Suggestions**

Although the number of teaching staff increased markedly, further development of specialized qualification and teaching programs in basic, food hygiene and clinical areas are required. In specific areas (especially clinical sciences) the number of specialists (EBVS or American Diplomates) should be increased among contractual and permanent staff. All Diplomates, those already on faculty, as well as future faculty, should be strongly encouraged to train residents up to the maximum number permissible in their respective fields. A structured rotating clinical internship programme should be developed.

There is also a need for a better and formal didactic training for the junior teaching staff.

The continuous need of positions for technical support staff requires continued attention.

Support staff should be offered (and perhaps be required to do) on a regular basis continuing education (professional formation) courses with the goal not only to increase performance standards but also to foster promotions.

## **11. CONTINUING EDUCATION**

### **11.1 Findings**

Italian veterinarians can generally find employment:

(1) in the private sector, as self- employed, contractors or consultants.

(2) in the public sector, employed by the National Health Care System.

In the latter case, the veterinarians are employees, employed by state-run Public Health authorities called AUSL. The veterinarian's role within the AUSL is to monitor the health of animals (both pets as well as food animals) and to monitor the hygiene of food products.

Since 2000, every year state veterinarians have to attend continuing professional development courses, called Continuous Education in Medicine (CEM) courses, in which they are expected to acquire at least 30-50 learning credits per year. Such Continuous Edu. Courses for veterinarians are organized and provided for by the FVMP, either within its own facilities or externally.

Individual teachers from the FVMP also schedule and organize continuous education seminars for the public. Students and junior teachers are involved in those courses.

The staff teachers are also occasionally engaged to run continuous education seminars for local or national veterinary organizations.

### **11.2 Comments**

- CEM programs do not seem to be given a high level of attention by the Faculty.
- CEM programs seem to focus more towards the public veterinary health sector and to a lesser degree towards the continuous education that the private practitioners needs..
- If Faculty is involved with postgraduate specialization of practitioners (species or discipline oriented) then a valid formal system is required .

### **11.3 Suggestions**

The Faculty should attempt to organize seminars that reflect the situation of new agriculture reality (new surgery approaches, disorders associated with high yielding farm animals), those that reflect situation of individual vets (re-qualifications from farm animals towards companion animals) and seminars reflecting the needs of small animal vets for more advanced techniques.

The Faculty should ,on a regular basis, invite lecturers from abroad – to bring CEM clinical seminars up to to-date levels and to promote the international exchange of teaching staff .

The Faculty should communicate and coordinate with outside CPE in order to provide topics, themes and dates for continuous education seminars in a market-oriented way.

## **12. POSTGRADUATE EDUCATION**

### **12.1 Findings**

PhD programs are well organized. The so called “researchers” (*Assistant Professors*) must have acquired a PhD Diploma for promotion (*dottorato di ricerca*) which takes several years to complete, while being on staff and having also teaching obligations. Frequently, such research generates grants and leads to the publications of research papers. Successful

PhD's either advance to associate professors or find engagement in industry or government health agencies.

A number of post-graduate specialist schools is available (see SER p.163) for obtaining a national specialist title (with little impact on the international level).

The number of resident programs are definitely low (pathology and reproduction), despite more than 2 Diplomates are full time faculty members. A formal rotating internship program is not offered or available.

## **12.2 Comments and 12.3 Suggestions**

The Faculty should enhance and encourage the concept of EBVS-specialization by demanding of all employed Diplomates to establish and to run residency programs.

The "Diplomat status" should be a priority condition when hiring a new faculty member of the staff.

The Faculty should also prepare long-term plans to attract and to employ future Diplomates, especially those trained in-house.

A rotating clinical internship program should be establish – one program for small animals and one for large animals (equine).

International partnership should be developed by attracting more foreign PhD students, promoting resident exchange and by inviting more frequently guest lecturers.

## **13. RESEARCH**

### **13.1 Findings**

One of the main missions of the FVMP is to produce research, innovation, and development of critical thinking in the various disciplines of veterinary sciences, including basic veterinary sciences, animal sciences, veterinary clinical sciences, and veterinary public health.

However the SER does not give much information about the current research activities in the Faculty and its different Departments. The impression is that the research efforts are more fragmented than cohesive, but during the visit of the FVMP only limited time was devoted to analyze this aspect. However, the data showed during the visit to the different subjects and Departments indicate relevant research activities with both regional/national and international interest. The level of recent publications is of good quality in most Departments and most of the teaching and support staff is committed with research.

All the students are exposed to some research activities (with varying degrees of intensity) during the development of their theses. As students commonly start working at their theses during the last 2 years, those who are currently involved in it at the time of the visit are doing it according to MD 509 curricular guidelines ("each student dedicate at least 300

hours in order to prepare the DVM graduation thesis”). This time is spent either carrying out an experimental work or writing an in-depth review.

The FVMP covers every year the expenses for travel and accommodation for at least 2 students aiming to prepare their thesis in foreign research centers or foreign veterinary schools.

### **13.2 Comments**

Research is a Departmental function, conducted on a Departmental basis. There is no significant Faculty involvement. In fact all revenues from research and clinical and diagnostic activities are managed by the Departments. It is not appropriate that the FVMP by itself does not have a deeper involvement in research activities.

Nevertheless, many members of the faculty staff are involved in ongoing research projects, this permitting to offer several opportunities of research activities to undergraduate students. In this respect every year the FVMP organized an “Open Day”, in which PhD students show their research activity by means of posters, being available for discussion with undergraduate students. Such initiative is planned with the aim to show the types of research carried out in different departments and to disseminate its results, hoping to recruit undergraduate students interested in research and academic career. The FVMP also organizes seminars and special lectures with invited speakers and experts.

### **13.3 Suggestions**

Despite the national regulations, the Veterinary Faculty “per se” should have some role and involvement in the research activities conducted within the FVMP.

There would be interesting for the FVMP to introduce a kind of coordination of research activities towards veterinary themes, especially trying to integrate in some extent basic and applied material and to integrate research on animal production, animal health and the safety and quality of food.

It would be very interesting for the students of the FVMP to promote their involvement in research during all their stay at the Faculty. This would be done by implementing research activities related with the annual FVMP’s “Open Day” (i.e. designing intramural student’s scientific congresses where work would be carried out by students in collaboration with their teachers/PhD students and presented in a way similar to regular congresses).

The Faculty should enhance the concept research-based teaching everywhere and with emphasis in the clinical areas, fostering and high quality research.

The team strongly supports the suggestion made in the SER to increase the number and the duration of the stays abroad by faculty members, especially during their early academic career.

To better commit undergraduate students to research and to allow replacement of the final thesis with an international peer-reviewed publication with the student as the first author should be allowed and encouraged.

Encourage actively research by a bonus system (financial rewards for either/or the individual, the research team or the laboratory–clinic-institute) and seek collaboration with the medical and food industries and the Zooprohylactic Experimental Institutes.

## **EXECUTIVE SUMMARY**

The team confirms that the Faculty has fulfilled the essential objectives formulated after previous EAEVE visits and has successfully enacted the following:

- Implemented the “Tirocinio” - Changed from the old to the new curriculum - Created new clinical facilities (teaching hospital) - Increased the caseload, especially of large animals – Established a 24 hour emergency service.

That means in short that the principal weak areas, which were pointed out during previous visits, are now corrected.

The faculty has a sound and democratic decision making system. Its standing within the University of Padua and the Region is excellent. The budget is covering the present needs with the usual chronic financial limitations, which, at present, are acceptably compensated. The campus is modern with the layout appropriate to the needs of the 90ies, resulting today in limited to marginally insufficient space in some areas (some laboratories in basic science, food hygiene, offices VTH). New building plans are well under way with financing approved and construction about to begin.

The 5 year curriculum, with 80 students admitted annually, corresponds to European guidelines in every aspect, with practical hands-on teaching being strongly emphasized. Teacher-student ratios are satisfactory throughout. All species are covered; isolation units, 24 hr emergency service and an ambulatory clinic are instituted and functional. A new and interesting concept of a two-armed curriculum pathway has been introduced, allowing the student to focus either on clinical medicine or on food safety without compromising the “first day skills” principle. However more emphasis should be placed on food hygiene subjects. An internal quality assurance program including student evaluations is present in an early stage and is awaiting further development.

A new curriculum is being progressively introduced since 2004. The transition is well organized and flawless underway. Negative points are the still relatively high number of off-course students, the possibility to retake exams indefinitely and the relative long average study time. All, however, are the result of national legislation and are not within the responsibility of the faculty. The concept of problem oriented and research based learning and teaching has to be developed further. Also, specialization on all levels (Diplomates, residents) needs overall more attention. The case load of large animals should be further increased; the studying conditions in the library should be improved. International contacts are being well developed throughout with partner universities abroad, with the Erasmus program and by the introduction of some courses given in English.

In summary, the team has found no major deficiencies and recognizes the efforts the faculty has undergone to raise and maintain teaching standards and levels. Graduates from Padua have skills and knowledge in accordance with European standards. We recommend the Faculty of Padua to be approved unconditionally.

**ECOVE decision: full approval**